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Editorial Notes

THE destruction of books during the last war was a disaster whose results are still not fully appreciated. We are thinking not so much of the destruction of books which are classics and of text books, whose loss, grievous though it be, can ultimately be made good, but rather of the destruction of stocks of source-books, such as those which contains the reports of excavations or the critical editions and translations of historical documents. So long as a single copy of such books remains a reprint can of course always be made; but so long as there exist only one or two copies, there is ground for anxiety. We cannot be sure that even those which are preserved in great public libraries will survive, for more than one such library was completely destroyed during the war. There is one, and only one, safeguard against extinction and that is nature's own practice—multiplication. Many species survive because each individual produces millions of eggs or seeds, a few of which germinate, grow and do likewise. The larger the edition of a book, the greater are its chances of survival, and the same is true of manuscripts. Several of the most famous works of antiquity (e.g. Bede's History) probably owe their survival to the fact that, being popular, large numbers of copies were made. Unfortunately today standards of popularity are different, and the real permanent value of a book is often in inverse proportion to the number of copies printed. (But not always—some of the Penguins, for instance).

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Every scholar and every archaeologist will be able to give instances proving the truth of the above statements. Ever since the invention of printing whole editions of some books and maps have completely vanished. Of many only a single copy survives. Only a few years ago there turned up a copy of a hitherto unknown book printed at Lisbon in 1522 and giving an official account of what has been called the European discovery of Abyssinia. With most commendable promptitude the Trustees of the British Museum, who had bought it, published an excellent facsimile edition. That suggests the remedy which we propose might be adopted today. The need for multiplication of copies of unique manuscripts is of course so obvious that it hardly needs to be stated. Such multiplication, by mechanical means, would not only serve the first paramount need of ensuring, so far as humanly possible, the survival of copies of the document, but it would also, as a valuable by-product, confer an enormous benefit upon students who may not

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be able to afford the cost of photostats for their own exclusive use or the time, cost and other difficulties of travel, today, to consult the originals.

But we would go further and suggest that the time is now ripe for an even more ambitious programme—the multiplication of copies of quite modern printed source-books. Most of these appeared in limited editions, and of some the stocks were destroyed during the war, so that they are no longer obtainable. Two examples may be cited, the Reports of the Royal Commissions on Ancient Monuments, and the series called *Corpus Scriptorum Orientalium*. The former are the fullest and most authoritative source for all that concerns the history and archaeology of the various counties concerned. They are indispensable books of reference which, together with the volumes of the Victoria County History, are the first to be consulted when any problem arises. The latter contain (amongst much else) the text and translation of the Abyssinian Annals—contemporary records whose accuracy is proved by the independent evidence of eclipses and other cross-checks. The whole stock was destroyed at Louvain during the war. Single sets exist in some big libraries, but it is uncertain whether even all these are complete. (The lists printed in each volume of the series do not state whether a particular volume has been published or is merely in preparation). Without these books no one can even begin to study the history of Abyssinia itself, and that history concerns also the history of several adjacent regions, including the Anglo-Egyptian Sudan. These are merely instances quoted because they happen to come within the writer's purview at the moment. There must be scores of similar, and more urgent, needs.

Here is a task that might well be undertaken by one of the big trust funds, or even by an imaginative millionaire. It would be costly and unprofitable (in the usual sense), but it would be well worth doing, for it is, in fact, nothing less than the safeguarding for posterity of some of the best work of the pre-atomic age. It is the exact equivalent of that which was performed by the monasteries in the last Dark Age; and if we cannot prevent the onset of the next one, we can at least ensure that less is irrevocably lost. For we have what they had not—a historical vista long enough to prove the recurrence of Dark Ages. Thus forewarned we should hasten to be forearmed.

Experience shows that, to be effective, things have to be said over and over again. We shall not weary our readers by doing this, but we should be willing to publish a few titles of a few unique unprinted manuscripts considered by competent scholars to deserve multiplication, and a few source-books of which the number of existing copies is known to be very small. Thus reinforced, the plan could be submitted to some public body, in the hope that it, or some modification of it, might obtain their approval and be adopted. With some such backing it would have far more chance of success than it has in its present necessarily vague form. If those of our readers with specialist knowledge will send us a few such titles as may occur to them within their own range of study, we will do this. The chances of achieving anything may not seem bright, but an attempt should be made. (The Loeb Library, an equally ambitious project, succeeded). The plan has the merit of serving two purposes; it will benefit students by multiplying, and thereby rendering more accessible, works which are at present difficult to consult, and

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perhaps of preserving them from destruction. If there is no Dark Age this time, the benefits conferred on learning will alone be quite enough to make it worthwhile.

In a recent editorial we had occasion to notice some of the shortcomings of archaeology in India, and urged upon archaeologists in that country a more realistic approach and a fuller appreciation of the relation of archaeology to the everyday life of ordinary human beings. We feel that anthropology in general is also handicapped in much the same way. From the point of view of archaeology, the algebraics of the kinship-charts of exogamous clans, phratries or whatnots, and the inevitable sameness, wherever they may originate, of those plain spoken chants which we are told are in the interests of fertility, do not help the archaeologist to form a true picture of the life and work of bygone peoples, any more than does that literary antiquarianism which, if their periodicals are any criterion, still passes for archaeology among many Indians today.

We have lately received a copy of the first number of the new series of the Journal of the Indian Anthropological Institute which shows a welcome change, achieving throughout a general level of objectivity unusual in Indian publications. This number reproduces in English a very valuable contribution by the late Sir Aurel Stein on 'Desiccation in Asia', made originally in 1938 to the Hungarian Quarterly. This paper modifies considerably Professor Huntington's theory of climatic pulsation, by showing the effect on various regions of centralized law and order as against tribal insecurity; indicating that whereas the latter might bring devastation by anarchy, the former can produce the same effect by over-exploitation. A painstaking survey of Gandhara, which gives much detailed information for the first time, and a comprehensive summary of the Megalithic Cultures of Southern India both deal with concrete observed facts and are valuable contributions to these particular studies. It is to be hoped that the Indian Anthropological Institute which is not so well known as it deserves to be, will continue to produce work of this standard of objectivity. There is plenty about which we would wish to be more fully informed, and this applies in particular to such articles of material culture as pottery, agricultural implements, spinning and weaving devices, transport and house and village plans: not so much examples of the equipment of the uncivilized as of civilization in the making. We believe that the Indian Anthropological Institute has, in common with most of us, passed through difficult times during the last few years, but it seems to have begun a new lease of life, and impresses us as having a comprehension of what its aims should be. With the assistance of Dr B. S. Guha and Dr Verrier Elwin, the Director and Asst. Director respectively of the newly formed Anthropological Survey of India, this body may well produce the results we have always hoped for but seldom found.

In our last Editorial Notes we credited Denmark with the invention of pollen-analysis. A Swedish reader writes to correct this, pointing out that 'pollen-analysis is a Swedish scientific method inaugurated by the Swedish geologist, Professor G. Lagerheim, and subsequently elaborated by his colleague Professor L. von Post and others'. Our mistake arose from the work done on the subject in recent years in Denmark, and we are sorry that due credit was not given to the Swedish scientists who were actually the first in this field.

The Portuguese and the Indian Ocean : a review*

by ELAINE SANCEAU

IT was from the Portuguese that Europe first learned something about India. Their 16th century literature abounds in information on the subject. Duarte Barboza, Tomé Pires, Castanheda, João de Barros, Gaspar Correa even, though he says that he will only write about the exploits of his countrymen, have each one given to the world many interesting facts regarding the ethnology, the customs and beliefs, and some account of the history of that baffling sub-continent which Portugal, of European nations, was the first to observe at close quarters.

The study has been carried on by others since. During the last two hundred years much has been written about India in various languages, but far fewer in Portuguese—the first of European tongues to leave its mark on Indian speech.

A work on India by a modern Portuguese is therefore of particular interest, and that of Captain Julio Gonçalves is a worthy contribution to the subject. As the title indicates, we have here two books rather than one—two separate works of considerable learning. Captain Gonçalves has delved deeply into his subject; his knowledge of India appears to be first-hand; his reading is vast and multi-lingual, and like a true scholar he is careful to keep the reader informed of his sources.

Book 1—*Da India Antiga*, is a rapid but comprehensive review of the Indian peninsula from prehistoric ages till the time when through the Portuguese it made lasting contact with Europe. The survey is divided into four parts, beginning with 'The land and its inhabitants', which describes the geography and geology of the subcontinent, and the variety of races which from neolithic times have streamed down through the northwest passes to be absorbed in the jungles and to spread across the plains. Blue-eyed Aryan, black Dravidian, flat-faced Mongol, Greek and Arab, Turk, Persian and Jew—all these divergent elements in the course of ten thousand years of migrations have poured into the melting pot. How can one talk of a Hindu type? Captain Gonçalves observes. There is no Hindu type, there is no Hindu race. The whole of India is one ethnological hotch-potch.

Out of such an agglomeration myths must rise, as heterogeneous as the races that conceived them. This brings us to the second part—the 'Origin and Evolution of Religious Myths'. In this the author guides us through the labyrinth of Indian legendary lore, from the animistic and totemic beliefs of primeval times, the superstitions and enchantments of the early jungle-dwelling Dravidians, to the purer religion of the northern Aryans, set forth in the immortal Vedas. Captain Gonçalves quotes many passages of the Rigveda, and explains how the simple faith of a pastoral race was modified, complicated and deteriorated by contact with the magic rites and monstrous idols and the bloody sacrifices of the peoples of the south. Out of this mingling of incongruous elements Brahmanism grew, with all its disconcerting contradictions. On one side

* Os Portugueses e o Mar das Indias—da India antiga e sua historia, by *Julio Gonçalves*. Livraria Luso-Espanhola Lda. Lisbon, 1947. Illustrated, 775 pages.

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flourished the lofty philosophy of the Upanishads, on the other the debased practices it suffered or ignored.

The great religion of the Buddha rose from the revolt of purer souls against the tolerated evils of Hindu religion. But Brahmanism, in its turn, with its peculiar powers of absorption, reacted on and modified and permeated the philosophy of Gautama until the practices of its adherents would not have been recognized by the Founder.

Into the dark and luxuriant tangle of Indian creeds, the clear-cut faith of the Koran flashed like a knife brandished by the Moslem invaders. Out of the Middle East they came, the Arabs and the Turcomans, Persians and Turks—traders and warriors and proselytisers all—disrupting the established Hindu kingdoms.

Parts III and IV tell of these polities, and their Moslem successors. In northern India, throughout the Middle Ages the picture was that of a subject Hindu population ruled by Moslem overlords, with Arab traders sailing in their dhows between the Indian coast and the Red Sea, carrying to the markets of the Levant the precious bales of silk and muslins, pepper and rare spices. The wealthy Moslem trader, the chief customer of India, became all influential, if not loved, at the courts of the Hindu Rajahs of south Indian ports. Inland the Moslem influence was less. The great kingdom of Vijayanagar, ruled by a Hindu king, extended over the larger part of the peninsula and challenged the upstart dynasties of the Moslem north. Captain Gonçalves sketches the rivalries and wars between the Indian realms and sultanates before his countrymen appeared upon the scene, and afterwards until the rise of the great Mogul empire of Delhi, which gradually absorbed the lesser sultanates and spread down to Bengal.

A complex theme, exposed in clear synthesis and colourful prose. *Da India Antiga* is a work complete in itself, but it provides an interesting background for Volume II—*O Mar das Indias e a Expansao Lusitania*.

Portuguese expansion overseas and the influence exercised by Portugal all around the Indian Ocean to the archipelagoes of the Far East is a fascinating subject and an everlasting wonder. For a small nation of under two million inhabitants, of little wealth, and few natural resources, to extend its dominion to the far ends of the earth, and play successfully the part of a great power before the mighty empires of the East is so amazing as to be almost miraculous. Yet this apparently impossible thing was done by the Portuguese, and sustained during several generations. All ports around the Indian coast were more or less directly under their control; no native ship could carry spice without their governor's signed permit; their fortresses and factories stood at all strategic points; the inland empires paid them court as masters of the sea; the Indian princes begged for Portuguese contingents to support them in their wars; the Portuguese alliance added lustre to a native king's prestige, and feebler dynasties were glad to seek protection under the Portuguese flag.

Captain Gonçalves, a historian so impartial as sometimes to be almost unjust to his countrymen, appears to blame the Portuguese for keeping mainly to the coast and showing too little interest in the far more important kingdoms of the vast interior. When we remember that, though they were a mere handful of men 4000 leagues from their home government which kept them short of supplies and equipment of all kind, yet they managed to rule the sea in a few rotten ships and to play at power politics from undermanned and ill-found fortresses constantly threatened by the coalitions of Islam, we feel more inclined to take off our hats to what they did achieve than criticize that which they left undone.

One man at least there was fully aware of all the possibilities, who if he had lived longer and had been supported by his king, might have extended Portuguese supremacy

across the continent of Hindustan. He might have, though the difficulties were immense, but the programme that he left incomplete was too vast to be executed by a lesser man, and no nation can reasonably expect to produce more than one Afonso de Albuquerque.

That his contemporaries should have failed to understand his genius is not surprising perhaps, but it is strange that still today some of his countrymen should fail to appreciate his unique greatness. We find him classed with D. Francisco de Almeida and with other lesser names. Captain Gonçalves, however, does not make this mistake. While doing justice to the first Viceroy as an able and faithful servant of the Crown, he is perceptive of his limitations. D. Francisco believed that Portuguese supremacy could be maintained entirely from the sea, by levying tribute from the Rajahs of the coast, by issuing licences to carry spices to the Straits, and making prizes of all contraband. He was opposed to the building of fortresses or any territorial conquests. As for the Indian kingdoms inland, he was inclined to disregard them. Portugal had no need of Vijayanagar, he is said to have declared, because that great realm did not produce pepper. He did not seem to consider that Hindu Vijayanagar was the chief enemy of all the Moslem states, and Moslem traders were the principal rivals of Portugal in India. Upon his chosen element, the sea, the Viceroy was admirable. His victory over the great Egyptian fleet at Diu is among the finest naval triumphs of all time. It is the glory of this achievement that blinds many historians to the side where D. Francisco failed.

Afonso de Albuquerque, a seaman quite as much as D. Francisco, held a more balanced view and understood a long term policy far better. He did not underestimate the supreme value of sea power, but realized that in the Indian Ocean where the monsoon cut off navigation for months on end, a fleet could hardly be successfully maintained without adequate territorial bases. Goa, strategically situated in the centre of the Indian coast, an island of rich material resources and with a splendid natural port would be an ideal capital from which Portuguese dominion might expand. Ormuz at the mouth of the Persian Gulf, commanding the trade routes to the Middle East, Aden closing the Straits of Bab-el-Mandeb, and Malacca at the gates of the Far East—these were the basic points that Albuquerque was bent upon securing. And then, what next? We see him watching with a fascinated eye the upheavals and the dynastic rivalries of the Indian interior. What an opportunity for a discerning outside power to throw about its weight! 'May it please the most High God', wrote Albuquerque to his king 'that there should be such war and discord among them' (the Indian princes) 'that some may call you in as arbiter, and give you a part of their lands'!

Captain Gonçalves, quite rightly, devotes a large proportion of this volume to Albuquerque's great career in India, and these chapters are among the most interesting in the book.

Of Albuquerque's successors, Nuno da Cunha is the one whom the author selects for special notice. The man himself was not particularly remarkable. Able, no doubt, honest and disinterested, valiant, of course, like all the Portuguese fidalgos, Nuno da Cunha's merits were chiefly those of a long term of office faithfully discharged, attended with almost constant good luck. That he made the most of his opportunities cannot be claimed, and it was more owing to fortunate circumstances than to diplomacy or military skill that he acquired for Portugal in 1535 her final territorial gain, that of the island of Diu.

Portuguese expansion, by that time stretched almost to breaking point, progressed no further after this, although amazingly it was maintained for another half century. Captain Gonçalves, however, carries his study no further than 1540. He hardly mentions the two epic sieges of Diu, and gives no account of the governorship of D. João de Castro,

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which we should have supposed to be of special interest to the point of view from which this book is written. D. João's relations with various Indian rulers of the coast and inland, his diplomatic and hostile passages with Adil Khan of Bijapur, his correspondence with Salim Shah, great king of the Pathans, the different embassies that he received, and his comments on Indian politics as set forth in his letters to the King provide material curious and illuminating.

Portugal was the first European power to be established in India, and seems likely to be the last to leave, although her influence and dominions have shrunk to a few little colonies along the coast. One gathers, however, that the natives of Goa, Damão and Diu are in no hurry to secede, being content to count themselves Portuguese citizens. In these two words resides perhaps the secret of the Portuguese success as colonizers. They ruled, sometimes badly and sometimes well, but not as foreigners over the peoples among which they came to dwell. They do not seem to have known racial pride. To quote Captain Gonçalves' words :

'It was the magnanimous and equalitarian approach of the Portuguese towards the natives, unified and brought to a common level in part by a common creed, which made the momentary greatness of the imperial construction, and still perpetuates its tradition to day . . .

'Two essential factors have contributed largely towards the greatness and continuity of Lusitanization in India. In the first phase it was the progressive infiltration of habits and customs born of a persistent and cordial intercourse between the Portuguese and Indian people. This intercourse arose out of the fundamentally generous and liberal spirit of the Portuguese, which is one of the characteristics of the race, making of them peculiarly a civilizing nation, if by civilization we mean only the transmission of a code of ethics.

'In the second phase, it was the institution of a system of public education, begun by Albuquerque, continued during the reign of D. João III, and progressively improved throughout the 18th and early 19th centuries. This system of education followed the same development as in the home country. It may be said that there was no organism or institution founded by the Portuguese that they did not at once extend to their *Estado da India*'.

Such things account for much.

Os Portugueses e o Mar das Indias is an outstanding work. Dispassionate and scholarly throughout, it should be a valuable addition to the bookshelves of every student of the long and intriguing history of India.

People without a history*

by O. G. S. CRAWFORD

MANY years ago I was put in charge of the excavation of an ancient mound-site at Abu Geili on the Blue Nile near Sennar. Careful records were kept, but for reasons wholly outside my control it is only recently that I have been enabled to write a full account for publication. In the course of doing so I have constantly been brought up against first principles; in the present article I propose to consider how these principles apply, as I see it, to Sudanese archaeology at the present time.

And what *is* Sudanese archaeology? Some will at once think of the pyramids of Meroe, the temples of Napata, hieroglyphic inscriptions and the Meroitic script. These are of course part of the subject, perhaps the most important part; but one should not forget that General Pitt-Rivers (1), the founder of modern archaeology, wished to expunge that question-begging word 'important' from the vocabulary of science. 'That which is important', he said, quoting Huxley, 'is that which is persistent'. He was emphasizing the preponderant value in evidence of common objects over rarities and 'museum specimens' (so called).

No one but a fool would deny the need for careful excavation of major sites, whether temples, tombs or cities, for it is probably upon such work that the absolute chronology of future excavations will ultimately be based, whether of other major sites such as Soba, or of the minor ones to be dealt with later on in this article. (Nor should such obvious and crying needs as conservation, an adequate museum at Khartoum, the training of personnel be in any way minimized). The work of Dr Reisner in the Sudan may well provide just such a basis when the full results are published. The point I wish to make is that archaeology consists, not in the mere removal of debris from ruins in order to find inscriptions, statues and *objets d'art*, nor in the transfer of grave-goods from graves to museums, nor even in the necessary task of conservation, but in *the reconstruction of history by the establishment of types based upon stratification*. The prime need of Sudanese archaeology today is the establishment of a long sequence of such types, particularly of pottery. All Dr Reisner's work was carried out with that object in view and according to a method which he devised himself for that purpose. To what extent he succeeded we cannot know until his records, now being prepared for publication, are available. But with that we are not now concerned; the point is that he dug with the right aim—to discover not objects but history. All his critics, even the severest, will admit this.

The object of Sudanese archaeology, then, is the reconstruction of Sudanese history (2). Sudanese readers naturally do not need to be told that there is such a thing as Sudanese, as distinct from Egyptian, archaeology. But to many others this is a new idea. When I have told people that I once dug a site on the Blue Nile, almost

* As stated in the text, this article is a by-product of work done for another publication. At first I intended to submit for publication elsewhere; but finally decided to publish it here, as it touches on matters of method which are of general interest.

¹ Excavations in Cranborne Chase, vol. iv, 1898, 27.

² The distinction between archaeology and history is of course largely artificial and based upon a difference in method. Both deal with a single evolutionary process, which for lack of any other covering word must be called 'history'. The history—in the narrower sense—of the Sudan south of Soba does not begin until the 16th century; and the history of the White Nile and regions to the south not until the 19th. Darfur is outside the scope of the present article.

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invariably they have expressed surprise that there should be anything to find there. Many (to whom the Nile meant Egypt) have assumed that I must have been looking for 'Egyptian remains'. My reply has always been that what I found was the remains of the ancient dwellers on the site; living in what is now called the Sudan, these people were naturally the ancient Sudanese. But so completely has archaeology been bedevilled by its own Fifth Columnists that the idea of digging to recover the history of a remote community with no temples or inscriptions and no fine works of art is still a new and strange one, not easily assimilated. Modern archaeology dates from Pitt-Rivers and some of his German contemporaries; it has grown up in Britain and Europe and developed consistently on its own lines. It was from Germany that many of the great leaders, including Reisner and Breasted, derived their inspiration. They all dug for knowledge, not loot; but their work has been overshadowed by the activities, too often irreparably destructive, of a host of lilliputians in search of 'treasures'. It is these people who have come to stand for archaeology in the eyes of the public, even the educated public. The wrong idea of archaeology was fostered by sensational discoveries (such as the tomb of Tutankhamen and the Royal Tombs of Ur). It is not, therefore, surprising that the idea of digging for history should still be unfamiliar, even though the excavator of Ur has himself written a book with almost this title. Of course sensational finds do assist the reconstruction of history, but not in proportion to their intrinsic value. (They may also retard it; Reisner regarded his most sensational discovery as an interruption of his proper work).

Before coming to the main subject of this article, I would like to say a few words, not wholly irrelevant, about the subjective aspects of archaeology. There may be said to be two chief motives for digging—intellectual curiosity and loot. Those who dig for the first motive are to be approved only if they have taken the trouble to learn the discipline. If they have not, they will lose all the fun. For there are few intellectual pleasures equal to that of extracting from the soil all that it will yield in the way of knowledge. It is akin to the pleasure that a detective must find in reconstructing a crime. Too often a person with no training or experience at all will dig up a site and then come to a professional archaeologist and ask him to explain it. That cannot be done. It is as if one were to remove the body and all traces of the murder and then expect the detective to find the murderer. It is in the process of digging that a site is explained, not after it is finished; nor even so will it ever be possible unless the digger has kept a constant record of his work. The intellectual pleasure of unravelling history from such records is a real one, and at least as great as the aesthetic or other pleasure of contemplating an array of loot. I have taken part in both kinds of excavation, and I know that I got just as much enjoyment from worrying out the stratigraphy of Abu Geili as from watching the gold and silver emerge at Sutton Hoo.*

On the banks of the White Nile, beginning to be common (to judge from the map) some 20 miles south of Jelebein, are many ancient mounds called 'debbas'. They continue to be found on both banks at least as far south as Malakal; they are also found on the Sobat and occasionally inland on the banks of wadis (e.g. round Paloich in the Ageir region, Lat. $10^{\circ}30'$, Long. $32^{\circ}30'$: 1:250,000 map, Sheet 66f). Others in the Bahr el Ghazal province are found 'about the junction of the river Pongo with the

* Of course I do not for one moment suggest that the excavation of Sutton Hoo came under the category of mere looting! It was carried out in exemplary fashion.

river Voll and thence eastwards to the river Jur (3)'. They are round, and vary in size from one to five acres and in height from 15 to 40 feet. They are covered with potsherds, amongst which are some with a smooth red surface, said to be unlike any now made by the Dinka (4). The local explanation is that they were made for dwelling-places by the people called the Barrjo who were tall men. Similar debbas in the Beir region (Lat. 7°, Long. 33°) are some 200 by 160 yards (5) and 8 feet high (6); they are very numerous. No excavation has ever been made in any of these mounds.

Here is a magnificent opportunity! These mounds represent the accumulation of centuries of occupation-debris. A mound of such debris that is 40 feet thick must surely have begun to be formed before the Christian era. Even if the rate of accumulation were twice as rapid as was the rate of deposition at Abu Geili, such a mound would have begun to be formed about 2000 B.C. A cross-section through such a mound might give a cross-section of 4000 years of Sudanese culture. The stratification is likely to be simple, uncomplicated (one would suppose) by walls of brick or stone. The time-range is long enough to show marked changes in the pot-types, and we should get a sequence of types that would provide a yard-stick for all future excavations in that part of the world. Such a dig has never been done or even (so far as I am aware) attempted anywhere in Africa; and one such carried out with due care and properly published would become an archaeological classic.

The site should be carefully chosen. A mound situated on an arterial line of communication should be found because there one will be most likely to find imported and therefore datable objects that will fix the chronology of the strata. It is known that Egypt traded and raided in these regions from the earliest times, and one may reasonably expect to find some of the trade-goods, especially beads. Such were found at Gebel Moya, proving Napatan connexions in the centuries preceding the Christian era; and if they reached the arid gebels of the Gezira they must surely have gone far up the fertile valleys also. The first appearance of clay pipe-bowls (such as were found at Abu Geili) should help to date the upper strata. The actual site must of course be chosen by someone with local knowledge after a preliminary reconnaissance. But merely from the map one can point to three localities where (if the present state of the mounds permits it) digging would be most likely to be remunerative.

The first and perhaps the most promising is El Ais, now Kawa, formerly an outpost of the Fung kingdom, where the route from Kordofan to Sennar crossed the river. El Ais is the northernmost of the three sites, and probably marks the northern limit of Nilotic culture; here therefore where the Old World civilizations may have been in contact with Central African barbarism one may well expect to find the remains of both intercalated. Meroitic pottery would perhaps be found associated with the Nilotic. In the 18th century, according to Browne's information obtained in Darfur (7), there were two towns, Hellet Allais on the west bank and Shilluk on the east. Both were 'built with clay' and inhabited by 'idolators'—i.e. non-Muslim Nilotics—clothed in bands of long grass. The Shilluk 'had the dominion of the river', and though apt

³ SNR. VI, III.

⁴ But as no anthropologist has yet published any adequate description of the modern pottery of the Dinka (or of the Shilluk) this description does not help much.

⁵ Roughly about 6 acres or a little less.

⁶ SNR. I (4), 239.

⁷ Travels in Africa, by W. G. Browne, 1799, 452.

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to be truculent with passengers on the ferry, were said to be hospitable 'to such as come among them in a peaceable manner'. Linant de Bellefonds was the first European to see 'Aleis' which in 1827 was a place 'of considerable size and built like Sennar, but chiefly in ruins, having been long since abandoned except by some families who continue to reside there on account of the caravans which occasionally pass' (8). Twenty years later Werne found it 'almost entirely abandoned'. One of the early travellers described its site as littered with potsherds.

The fortunes of El Ais seem to have declined with those of Sennar, and they may have begun with the latter's rise to importance as the Fung capital. On the other hand we now know that somewhere in the immediate neighbourhood of Sennar, perhaps on the site of Old Sennar itself, was an important Meroitic settlement. The road from El Ais to Sennar was also part of that from Darfur and Kordofan to Abyssinia.

In choosing a site it would be as well to explore also the region between El Ais and Khartoum, perhaps the neighbourhood of El Geteina or of Wad Shala'i (Petherick's Wallad Shellai) once an important entrepôt, 25 miles above El Geteina.

The second site suggested is Er Renk (Lat. $11^{\circ} 45'$) which is probably the 'Dinka' of Cailliaud. Its importance was due to its position at the western end of a route running inland to Jebel Geili, the Tabi and Togo hills and the upper Blue Nile. The map marks two mounds, one on the east bank called Debbat Kudit, 2 miles north of Renk, and the other on the west bank called Debbat el Eheima, immediately opposite Renk. Twelve miles south of Renk, on the east bank, is the first of a succession of Debbas standing in an old bed of the river called Wadi Gasir el Abyad. Near this first debba, immediately below the island of El Makhada is a ford where (says the map, Sheet 66B) Ahmed Fadil crossed in 1898.

The third site is Kaka, a large Shilluk town inhabited down to about 1860. It is situated at the point where the route leading from the Nuba hills reaches the Nile. It is obviously a most important and promising site, but being the remotest from the regions of civilization it is less likely to yield datable objects. The excavation should therefore not be undertaken until some data have been provided from elsewhere.

Having selected the site, it will next be necessary to decide what point on it to dig first. It is a good rule in all excavations to begin by finding undisturbed soil—the old surface-line beneath the later artificial accumulations. The one place *not* to begin, as a general rule, is the top of the mound. (Foucher spent two years digging into the top of Balkh, the finest site in Asia, and found an Islamic hammam and a small mosque; in a city with a circuit of 7 miles, he chose the one spot that is manifestly most unsuitable. Sir John Marshall long ago did the same thing at Charsada near Peshawar—the biggest mound-site in India—and found a few nondescript Islamic and late Buddhist walls). It would probably be best to choose a low place or depression within the mound area and dig down to undisturbed soil; this will give a sequence from below upwards, i.e. from the time of the first occupation to some point in the middle period. Another excavation will enable the sequence to be completed upwards. Should no such depression be available, one might begin somewhere on the outskirts of the mound and work inwards, keeping a firm hold all the while on the undisturbed soil at the bottom of the excavation. This method is not so good as the other because the strata at the edge of the mound are likely to have been confused by a downwash on the slopes of the mound. If the mound is a high one (i.e. 40 feet or thereabouts) one will not dig a trench

⁸ *Journ. R. Geogr. Soc.* II, 1832: J. Mazuel, and *Œuvre Géographique de Linant de Bellefonds*, 1937, 87.

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of that depth, but proceed in steps. The trench should of course be a very wide one, certainly not less than 12 feet and perhaps more.

But one cannot lay down rules on paper for digging an unknown site in a region one has never visited. Problems of detailed procedure will solve themselves on the spot, if one has a grasp of method and principle, and of course the necessary training and experience. Need I add that nothing in the foregoing remarks is intended to take the place of such? One can no more learn to excavate by reading than one can learn to fly or do anything else that way. One can only learn to excavate by taking part in a properly conducted excavation. Unfortunately the opportunities of doing so are limited nowadays.

I would suggest, in conclusion, that the excavation of a Nilotic mound-site is more suitable to be undertaken at the present moment than that of yet another Egyptian temple. It will not add to the responsibilities of the Commissioner for Archaeology, who (I suspect) already has enough conservation of existing ruins to keep him and his wholly inadequate staff fully occupied. But it *will* probably provide the Sudan with a sequence of types by means of which future excavators will be able to date their finds and strata; and until they can do this, they had much better remain at home.

Eel-spears*

by CHARLES GREEN

INTRODUCTION

BRITISH fish-spears fall readily into one or the other of two main groups. The first consists of 'transfixing spears', i.e. spears having one or more tines with barbed points which pierce and secure the fish. This group included salmon 'leisters', flounder-spears, pike-spears and, in fact, spears for most edible shallow-water fish. The type has a long history, being represented in Mesopotamia, Egypt, Greece and prehistoric Europe (e.g. La Tène) (1). I hope in due course to trace its development in Britain.

This paper, however, is concerned solely with the second group, which consists entirely of eel-spears. These are of a very different fashion. Their many tines are made of flat strips of iron, usually with rounded ends, set close together. To pierce the eel would be to ruin it and these elusive fish are secured by being 'jammed' or 'enmeshed' *between* the tines.

To increase the difficulty of escape, the edges of the tines are 'toothed' or 'jagged' for the greater part of their length. Various methods of toothing are found and will be described later. They are contrived so that a minimum of damage will be done to the skin of the eel. In practice, however, the pressure of the tines often broke a large fish. Eel-skins, it may be said, were valuable. When tanned, they provided an extremely tough leather, which was largely used for securing the 'swingles' of flails to their hafts.

NOMENCLATURE

'Eel-spear' seems to be a fairly modern sophisticated term for these implements. The many dialect names for them fall into two groups, representing roughly Saxon England and Anglo-Scandinavian England. In the Vale of Severn, where the largest and most elaborate spears are found, they are known as 'eel-shears' (2). The same name is used also in Kent (3) and Sussex (4). In Wiltshire they are called 'eel-stichers' (5), 'sticher' being apparently the equivalent of 'sticker', which is also used to mean a fish-spear (6).

In the Danelaw, 'stang' (7) or 'eel-stang' is a widespread term, but is found particularly in Lincolnshire (8). 'Stang-gad' is also recorded for Lincolnshire (9). 'Stang' is given by Wright (10) as a variant of 'sting', but in this context it might perhaps be from the O.N. *stong*, 'a pole'. 'Gad' also occurs in Lincolnshire in the compound 'eel-gad' (11) and is a variant of 'goad', meaning 'spike' or 'pole'.

* Some years ago, Dr O. H. Wild, who for a long time had collected British fish-spears, gave his collection to the Gloucester Museum. Problems of chronology and classification gave unexpected difficulties and I found that little of value had been written about them. We accordingly decided to make a survey of the fish-spears of this country. I worked out the classification and prepared a preliminary draft of this paper in 1940, but when I returned from War Service, Dr Wild had made no additions to the sections he had undertaken to complete. His recent death has robbed me of his great store of knowledge and his papers contain nothing which I can use. I must accordingly take full responsibility for the whole of this paper.

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A term used on both banks of the Humber is 'auger' (O.E. *ael*=eel + *gar*=spear) (12). The same word 'gar' also appears in pilger (O.E. *pil*=pointed stick + *gar*) (13), a name used in both East Yorkshire and East Anglia either for an eel-spear or for other types of fish-spear. In Norfolk, 'eel-pick' (=pike) (14) is also found and in Suffolk the name 'glave' is common (15).

Many of these terms such as 'stang', 'pick' and 'shear' are also used as verbs and, in Northamptonshire, 'eel-driving' is used for eel-spearing (16).

As we shall see, the earliest typological example in each group is clearly differentiated from those of the others and is, furthermore, so highly specialized an implement that it must have had a long ancestry, a conclusion amply substantiated by the evidence of dialect nomenclature. It is somewhat surprising, therefore, that I am quite unable to produce any other evidence of this ancestry.

Eels of different species are found in almost all parts of the world, but our spears seem only to be found in the vicinity of British and Irish estuaries in comparatively recent times. They have not been found at the Somerset Lake Villages, nor are any recorded from Romano-British times. They are equally absent from Anglo-Saxon England and even the many illustrations of medieval tools and crafts do not to my knowledge, picture a single example.

It is not, in fact, until we come to the 19th century with its dialect collections and compendia of rural sports that we find written references to eel-spearing in particular.

CLASSIFICATION

The eel-spears known to me have been classified without much difficulty into four main groups. Each group is largely confined to a particular district and I have accordingly named them 'Western', 'North-Eastern', 'South-Eastern' and 'Kentish'. Most of our examples belong to the 'Western' and 'South-Eastern' groups. The former has a characteristic type and a number of variants which seem to be the results of attempts to reduce the weight of metal in the larger examples. The 'South-Eastern' group shows a more definite typological sequence reflecting a simplification of manufacture.

It must be stressed that these typological sequences are 'subjective'. I can produce no external evidence to show that the examples I have called typologically 'early' were in use before the 'later' varieties. In fact, all my examples must be described roughly as '19th century'. But the evolutionary steps are so simple and obvious that, for purposes of classification, they may be used with confidence.

Details of Classification.

(1). 'WESTERN' GROUP. The characteristic spear of this group consists of a socket welded to a plate ranging from a semi-circular to a triangular shape, to which are riveted several tines arranged fanwise. The upper ends of the tines are shaped so that the riveting is spread evenly over the whole plate (FIG. 1). One example, however, has tines of equal length (FIG. 1, no. 4).

The variants from this normal type seem all to be designed to reduce the weight of metal. FIG. 2, no. 10, shows the simplest way of achieving this. The centre of the plate is 'voided' and the upper ends of the tines are accordingly riveted to the 'arc'. FIG. 2, no. 11, is similar, except that one of the two central tines is bent through the 'voided' space and secured at the upper end by the same rivet that passes through its fellow. FIG. 2, no. 12, instead of a 'voided' plate, has a semicircular strip, produced

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at either end to form the outermost tines. The inner tines are riveted to this arc and are further secured by a horizontal brace on the upper side, under which they are bent. One of these outer tines has broken away during manufacture and been riveted to the broken end of the arc. FIG. 2, no. 13, differs by reason of a second plate riveted over the ends of the tines, but this appears to have been done to increase the strength of the

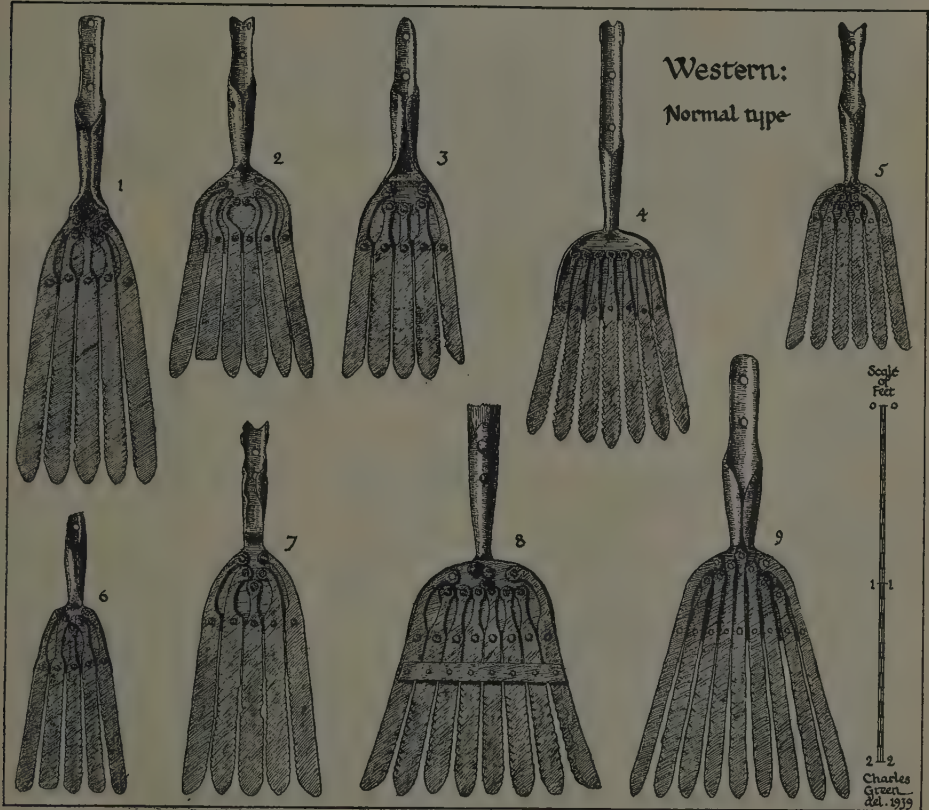


FIG. 1

spear, as the original plate was inadequate. The central tine has broken at the edge of the plate and a repair has been made by riveting the new tine over the plate and bending it into line with the others.

FIG. 2, no. 14, is not, in my opinion, a true eel-spear. Superficially, it is like the normal examples shown in PLATE 1, with the addition of a second semicircular plate covering the upper ends of the tines. The spaces between these ends have been 'voided', as have the blades of the tines themselves. A closer examination, however, shows that the tines terminate immediately above the rivets at the lower edges of the

plates, the apparent upper parts being merely 'packing'. Instead of a socket, there is a short solid stump terminating in a threaded rod to which is affixed a nut. It is clear that this spear-head could not be affixed to a haft nor would it be strong enough to survive the strain of use. It may be a 'fancy' copy of a true spear made by an experimentalist or, perhaps, was provided for use in a pageant or a similar display. Unfortunately, this spear (no. 904 in the Hull Museum Collection) has no recorded provenance, so that its history cannot be investigated.

FIG. 2, no. 15, is a very crudely made example, all joints being welded, but it seems to belong to this group and is from Gloucester. A similar spear, recently acquired by the Gloucester Museum, is from the Stratford district in the valley of the Warwickshire Avon. FIG. 2, no. 16, may not be an eel-spear at all, but is included because of its 'toothing'. It came from Kempley, Glos.

(2). 'KENTISH' GROUP. This group consists of spears with a socket and long, nearly parallel tines, made in one piece (FIG. 2, no. 17). No. 18 is of this type, but owing to its socket having been damaged, two long strips of iron have been added by riveting, thus securing the tines to the haft. The examples illustrated are both from Romney Marsh, but the type is also common in Thanet.

(3). 'NORTH-EASTERN' GROUP. This group also is characterized by spears having socket and tines made in one piece, but the proportions are quite different from those of the 'Kentish' group (FIG. 2, nos. 19 and 20 National Museum of Antiquities, Edinburgh). FIG. 2, no. 21 (Hull Museum) has been broken and repaired by welding. A recently-published variant of this type, found in a Suffolk garden, has a tang instead of a socket (17).

(4). 'SOUTH-EASTERN' GROUP. This group consists of more complex spears. FIG. 2, no. 22, which appears to be typologically the earliest, was found in the Cotswolds, but may be regarded as a 'stray'. Its socket is continued as a flat blade forming the central tine. The upper parts of the outer tines are bent inwards and secured to this by rivets. FIG. 2, no. 23, is clearly a modification of the type. Instead of the four outer tines being separate, they have been made in pairs, but apart from this the method of construction is the same. The arcs joining the pairs of tines carry a central projection which appears to be a 'vestigial' excrescence. This spear came from Essex. A similar spear, but without the vestigial excrescences, recently acquired by the Gloucester Museum, comes from Surrey. No. 24 (Hull Museum) represents a further modification. The vestigial projection has been rounded away and the lower part of the socket, to which the outer tines are riveted, is no longer produced as the central tine. The latter is a separate strip riveted to the horizontal brace. Nos. 25 and 26 are similar to the last, but the central tine is omitted altogether. No. 26 was found at Minsterworth, Glos., but it is known that at least one man from Kent or Essex settled there in the middle of last century. No. 27 shows clearly that it is descended from the earlier examples, but is a modern factory-made article, purchaseable from any fishing-tackle dealer.

Toothing.

The 'toothing' varies considerably from spear to spear, but does not seem to follow the groupings outlined above. FIG. 3 shows the main variations. Occasionally (as in FIG. 3, no. 2) the edges of the tines are serrated by having had pieces of metal cut away. More commonly, however, the effect is produced by means of oblique chisel-cuts on one side or the other of the tines. These were made while the iron was hot.

If the cutting edge of the chisel was held parallel to the face of the tine, a bitten line was produced which slightly bulged the edge of the tine (FIG. 3, no. 4). If, as more

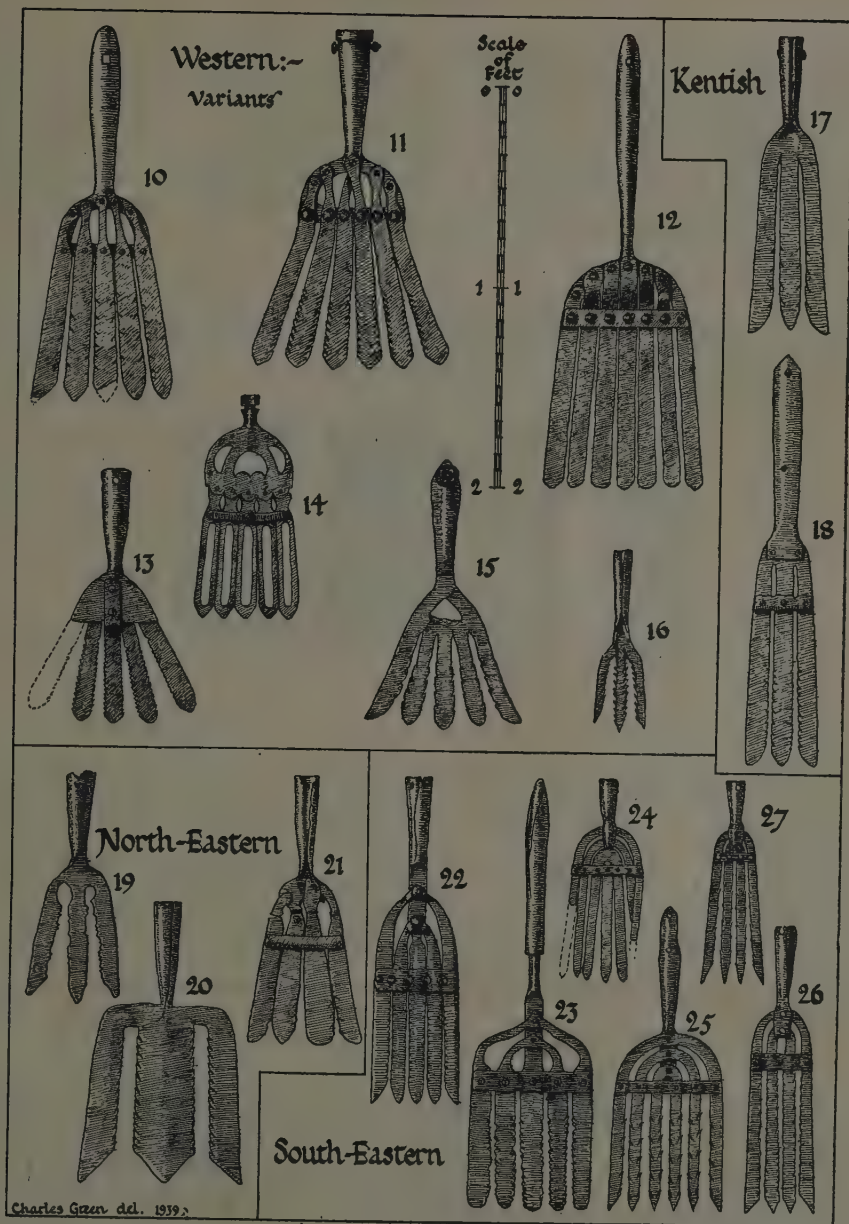


FIG. 2

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commonly happened, the chisel was slightly tilted, the incision was deeper towards the tine's edge. Sometimes it was bitten so deeply that the very thin metal at the outer end broke away, leaving a savage-looking 'jag' (FIG. 3, nos. 1 and 3).

The 'toothing' appears to have been done very casually. Sometimes all the cuts are on one side of the spear, sometimes on varying sides of different tines, and sometimes one tine may have some of its cuts on one side and the remainder on the other. Occasionally, both sides are incised. If so, the cuts are shallower. The modern spear (no. 27) is an example with alternated cuts.

Use.

Eel-spears were used in water-channels of very different sizes, ranging from the estuary of the Severn to small field-ditches. The larger 'shears', for use in the deep-water channels of the Severn, had poles as long as thirty feet. These unwieldy implements could be used only from the decks of the larger river-boats or 'trows'.

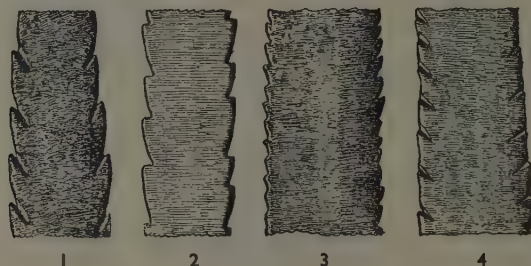


FIG. 3

The smaller spears, for use in streams and ditches, had ash-poles of from ten to fifteen feet long and could be used by men standing on the bank.

The habit of the eel is to lie in the mud at the bottom of the stream and it can, in consequence, rarely be seen. Eel-spearing, therefore, was a 'blind' activity. The spear was pushed down into the muddy bottom in the hope that it would 'enmesh' a fish and it was only when the spear was withdrawn that the wielder knew if he had been successful. This 'blind' spearing was of course quite different from true fish-spearing, the latter being done by striking at a visible fish just below the surface.

Since 1911, by an Order of the Severn Fishery Board, eels are included in the category of 'freshwater fish', so that taking them with spears is illegal in the area controlled by the Board.

ACKNOWLEDGMENTS

I am grateful to the late Mr T. Sheppard of the Hull Museum and to Mr R. B. K. Stevenson of the National Museum of Antiquities, Edinburgh, for permission to publish drawings of spears in their museums and for providing details and photographs. I am also grateful to Curators of Museums in all parts of Great Britain who have provided details of fish-spears in their museums or who have told me that they have none.

My friends Mr Charles Thomas of Birmingham and Mr E. A. Batty of the Yeovil Museum have also helped by acquiring spears for the Gloucester Museum collection, and Mr Llewellyn Jones, Clerk to the Severn Fishery Board, has provided useful information.

EEL-SPEARS

My acknowledgment must also be made to Joseph Wright's *English Dialect Dictionary* whence many of my references have been taken. Wherever possible, I have tested anew the use of dialect terms in the appropriate counties.

My notes on Irish spears were given to me by Mr A. E. J. Wear of the Fisheries Branch of the Department of Agriculture at Dublin, who has recently been collecting information about the spears of his country.

DESCRIPTION OF FIGURES 1 AND 2

FIG. 1.

No. 1.	Whitminster, Glos. (Used on the River Severn below Gloucester)	Gloucester Museum 2784
No. 2.	Gloucester District	Gloucester Museum 2786
No. 3.	Gloucester District	Gloucester Museum 2788
No. 4.	Gloucester District	Gloucester Museum 2790
No. 5.	Upleadon, Glos. (Used on the River Leadon, a tributary of the Severn)	Gloucester Museum 2782
No. 6.	Gloucester District	Gloucester Museum 2787
No. 7.	Whitminster, Glos. (Used on the River Severn below Gloucester)	Gloucester Museum 2785
No. 8.	Minsterworth, Glos. (Used on the River Severn)	Gloucester Museum 2789
No. 9.	Sandhurst, Glos. (Used on the River Severn)	Gloucester Museum 2783

FIG. 2.

No. 10.	Gloucester District	Gloucester Museum 2791
No. 11.	Woodchester, Glos.	Gloucester Museum 2792
No. 12.	Epney, Glos. (Used on the River Severn)	Gloucester Museum 2793
No. 13.	Gloucester District	Gloucester Museum 2794
No. 14.	No provenance	Hull Museum 904
No. 15.	Gloucester District	Gloucester Museum 2795
No. 16.	Kempley, Glos. (This may not be an eel-spear)	Gloucester Museum 2796
No. 17.	Dymchurch, Kent (Used on Romney Marsh. Probably made at Rye)	Gloucester Museum 2797
No. 18.	Burmarsh, Kent (Used on Romney Marsh. Probably made at Rye)	Gloucester Museum 2798
No. 19.	Lochee, Angus	National Museum of Antiquities, Scotland. M.P. 42
No. 20.	Probably Aberdeenshire	National Museum of Antiquities, Scotland. M.P. 182
No. 21.	Hull District	Hull Museum 903
No. 22.	Brockworth, Glos. (Probably a 'stray')	Gloucester Museum 2799
No. 23.	Tolleshunt Major, Essex	Gloucester Museum 2800
No. 24.	Suffolk (Used on the River Ouse)	Hull Museum 905
No. 25.	Dymchurch, Kent (Used on Romney Marsh)	Gloucester Museum 2801
No. 26.	Minsterworth, Glos. (Probably a 'stray')	Gloucester Museum 2802
No. 27.	Purchased from fishing-tackle dealer in Gloucester (A standardized factory-made article)	Gloucester Museum 2803

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REFERENCES

1. PETRIE, W. M. FLINDERS. *Tools and Weapons*, p. 57, Pl. LXXII.
DÉCHELETTE, J. *Manuel d'Archéologie*, iv, figs. 615, 616.
2. Recorded by O. H. WILD and the writer.
3. W. D. PARISH and W. F. SHAW. *A Dictionary of the Kentish Dialect and Provincialisms in use in the County of Kent*. English Dialect Society, 1887.
4. W. D. PARISH. *A Dictionary of the Sussex Dialect*, 1875.
5. G. E. DARTNELL and E. H. GODDARD. *A Glossary of Words used in the County of Wiltshire*, 1893.
6. J. WRIGHT. *The English Dialect Dictionary* (6 vols., 1898-1905), v, 758.
7. J. T. BROCKETT. *A Glossary of North Country Words*, 1846.
J. WRIGHT. *op. cit.*, v, 728.
8. G. S. STREATFEILD. *Lincolnshire and the Danes*, 1884, 337.
E. PEACOCK. *A Glossary of Words used in the Wapentakes of Manley and Corringham, Lincolnshire*, English Dialect Society, 1877, second edition, 1889.
Recorded by the writer.
9. G. S. STREATFEILD. *op. cit.*, 364. G. M. FENN. *Dick o' the Fens*, 1888, XII.
10. J. WRIGHT. *op. cit.*, v, 727.
11. E. PEACOCK. *op. cit.*
12. F. ROSS, F. STEAD and T. HOLDERNESS. *A Glossary of Words used in Holderness in the East Riding of Yorkshire*, English Dialect Society, 1877.
E. PEACOCK. *op. cit.*
Recorded by O. H. WILD and the writer.
13. F. ROSS and others. *op. cit.*
R. FORBY. *The Vocabulary of East Anglia*, 1830 ; second enlarged edition, by WALTER RYE, English Dialect Society, 1895.
Recorded by the writer.
14. A. H. PATTERSON. *Man and Nature*, 1895, 22, 51.
15. Recorded by O. H. WILD.
16. T. STERNBERG. *The Dialect and Folk-Lore of Northamptonshire*, 1851.
17. W. A. STIRLING. 'An Eel-spear from Suffolk', *Country Life*, August 8, 1947.

Fire-dogs Again

by STUART PIGGOTT

IN ANTIQUITY for 1942 (1) Iorwerth Peate made a stimulating contribution to our understanding of the iron fire-dogs which are such a striking feature of British Iron Age craftsmanship, and in these notes that follow I hope to show that Mr Peate's thesis can be further substantiated by additional evidence from archaeology and modern folk-life. It is his central idea that I have followed: my paper is a postscript to his.

His points were in brief as follows. It had been suggested that our Iron Age fire-dogs were used in pairs, one on each side of an open hearth, though several archaeologists had considered that one double-ended fire-dog only was used and set in front of the fire. The famous Capel Garmon fire-dog is adorned with a series of loops on both uprights, and, following Déchelette, Peate considered these as basically functional loops to carry roasting-spits, which would favour a frontal position for the fire-dog in order that the roasting should be done in the front of the fire—the obvious place. He then showed, from early Welsh literary evidence confirmed by modern survivals, the use of a back-stone (*pentan faen*) to an open hearth, with a corresponding *pentan haearn* in front—the singular form of the phrase, which means 'the iron at the head of the fire', and its translation in the 12th century as *retentaculum*, confirming the impression that it meant a single iron fire-dog set across the front of the hearth. Quotations from 15th century Welsh poets showed however that by that date fire-dogs used in pairs, one on each side of the hearth, were normal, though they seem to have retained some zoomorphic characteristics which related them back to the bull-headed Iron Age examples. The paired fire-dog is of course the type which survived in Britain until modern times.

A dozen double-ended iron fire-dogs, or fragments representing such objects, have been found in Britain from nine sites. Of these, nine of the fire-dogs come from sites within the area of the Belgic kingdom of Cunobelin (Colchester, Welwyn, Lord's Bridge, Mount Bures and Stanfordbury) and one from Bigbury, Kent; and all are associated with Belgic material of late 1st century B.C. to early 1st century A.D., while of the remainder one (Capel Garmon) comes from North Wales, and was without associations, and two from sites of the Iron Age B culture of Wessex, from Belbury (Dorset) and Worlebury (Somerset). Their affinities to Iron Age B metal-work has been pointed out by Wheeler and Fox (2), and their presence in Belgic contexts in south-east England may largely represent the attraction of western craftsmen to the remunerative setting of the Belgic courts.

The stray finds have of course little evidential value in the argument for and against their use in pairs or singly, though on the whole it seems more likely that such a find as Capel Garmon represents a serviceable entity rather than a useless half. But of the Belgic series, several come from burial deposits, and it is partly from the evidence contained in these tombs that the theory of the paired use of the fire-dogs has arisen, for in more than one instance two fire-dogs were found in the same grave: this was certainly the case at Welwyn, Mount Bures and Stanfordbury.

¹ I. C. Peate, 'The Double-ended Fire-dog', ANTIQUITY XVI (1942), 64-70.

² R. E. M. Wheeler, *Report on the Excavations . . . in Lydney Park* (Soc. Ant. Research Committee Report, 1932), 75; C. Fox, *Ant., Journ.*, XIX (1939), 448.

The main features of these famous graves are well-known, and were admirably and accessibly summarised by Reginald Smith in a classic paper in 1912 (3). The essential characteristic of all these graves which contained fire-dogs was that they also had in them amphorae which had contained wine, and a quantity of cups, plates, jugs and dishes of (usually Roman) silver, bronze or fine pottery, while in one of the Stanfordsbury tombs there were also two roasting-spits, and a tripod from which depended a chain with pot-hooks (Smith mis-read the original account and in his summary gives a wrong impression of the number of spits, and invents 'six boiling-pots' out of a suggestion in the original that six pots could have been used on the tripod) (4). In this grave also were gaming counters and a bone flute.

Now it does not seem to have been pointed out that these assemblages are very comparable with the contents of many of the richly-furnished Chieftains' Graves of Early La Tène date in the Middle Rhine. Here the 5th century Celts had buried their princes with a wealth of imported bronze vessels and pottery cups of Etruscan and Greek derivation, and the contents of many graves, as Jacobsthal has pointed out (5), show that a banquet (or at least a drinking-party—a *συμπόσιον*) for two in the next world was clearly envisaged by the cups and other objects in pairs. The cordial hospitality of the ancient Celts and their very material view of the future world would make this an easily understandable belief, and the well-known passage in Pomponius Mela—*itaque cum mortuis cremant ac defodiunt apta viventibus* (6)—takes on a more vivid meaning when we think of the contents of the Stanfordsbury tomb, with its ample provision for roast and boiled, and its liberal allowance of wine, and with even the implication of a flute-player in the best classical manner. These Belgic graves imply not only that literal belief in a future existence that led the Celt to contract debts payable after death, but a selective choice of the element in life most desirable for perpetuation—there is no panoply of war, no concept of the everlasting battle renewed day after day that lay behind the Norse beliefs, but an unending banquet, pledging the eternal health of a boon companion before fires that blazed for ever behind the blackened fire-dogs.

This is surely the right interpretation of the tombs containing two fire-dogs: twin hearths for the prince and his noble guest in the future world, with even, it seems, a like allowance of wine in all three tombs—six amphorae at Stanfordsbury, six again at Mount Bures, laid in threes on the two fire-dogs as if to emphasize their separate allocation, five rescued from the Welwyn grave. A 'three-amphora man' seems to have been the Belgic ideal—in terms of modern capacity this entails seven dozen bottles apiece: but then, they had all eternity before them.

If this interpretation of the Welwyn, Stanfordsbury and Mount Bures tombs be accepted, it would materially support Peate's thesis. He has suggested that the presence of more than one fire-dog in a grave might indicate 'a lord of three hearths' or its equivalent, with the 'tangible indications of his social superiority' taken with him to the other world. But in no one grave have more than two fire-dogs been found, and while the custom of providing for a guest at the banquet was clearly no more universal among the Belgic aristocracy than among their ancestors in the 5th century in the

³ R. A. Smith, 'On Late-Celtic Antiquities discovered at Welwyn, Herts', *Arch.* LXIII (1912), 1-30.

⁴ H. Dryden, 'Roman and Romano-British Remains at and near Shefford, Beds', *Cambs. Ant. Soc. Pubs.* 1845, 17; the fire-dogs and tripod 'would have supported four spits and six boiling-pots' but only two spits and no pots were actually found.

⁵ P. Jacobsthal, *Early Celtic Art* (1944), 106, 142.

⁶ *De Situ Orbis* III; cf. T. D. Kendrick, *The Druids* (1927), 87.

FIRE-DOGS AGAIN

Rhineland, where provision for a single feast is as often found, (comparable with the single fire-dog from one of the Welwyn graves, and probably that from Lord's Bridge), its recurrence as a part of Celtic funeral practice does seem the most likely explanation of the facts observed.

Peate's quotations from the early Welsh Laws showed that a single frontal fire-dog was regarded as the normal equipment of a hearth in the Dark Ages—the Laws, though preserved in a 12th century manuscript, representing much earlier traditions. A surprising piece of evidence has recently come to light which confirms this use of the single double-ended fire-dog in Dark Ages Europe by an actual archaeological find. In the cemetery of boat-graves at Valsgärde in Sweden one, excavated and published during the war (7), contained a set of kitchen equipment in iron and bronze, comparable in

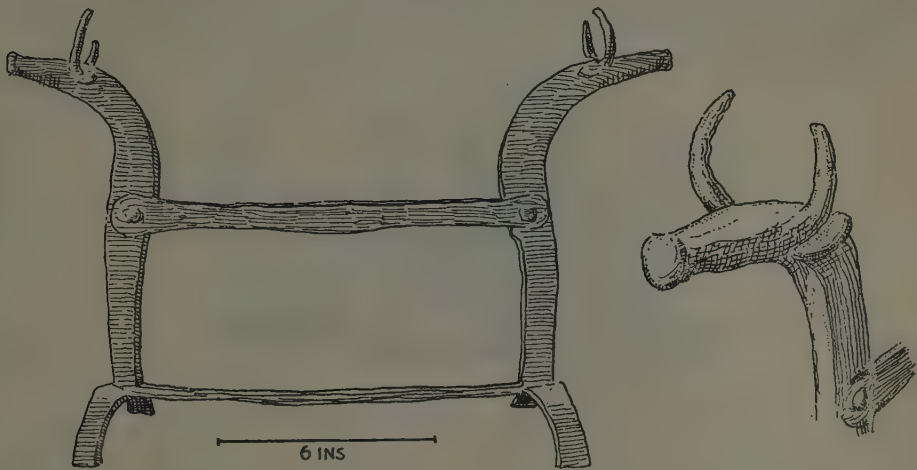


FIG. 1. DOUBLE-ENDED IRON FIRE-DOG FROM MID VIII CENTURY GRAVE AT VALSGÄRDE, SWEDEN
after Arwidsson

general terms with the similar gear in the Sutton Hoo burial, but dating from about A.D. 750. It comprises a bronze cauldron with its hook and chain for suspension (what in Wessex we call a 'hangle'), an iron flesh-fork, a pair of long-handled tongs, a long spit on a tripod mounting, and finally a double-ended iron fire-dog with horned bulls' heads in a very Celtic manner (FIG. 1). The fire-dog is small, not more than a foot across, and the upper bar is presumably for resting the spit against at right angles or obliquely (rather in the manner in which one might use a toasting-fork), but in general aspect it is clearly a very close relative of the European Iron Age series, and if found without datable associations, would certainly have been attributed to that period (8).

The presence of such an object of Celtic ancestry in a Scandinavian grave of the 8th century raises various possibilities that cannot be entered into here, but for our purpose

⁷ G. Arwidsson, *Valsgärde 6* (Uppsala 1942), 77, Pl. 32, fig. 59.

⁸ The Valsgärde beasts' heads are not knobbed in the usual 'Celtic' manner, though knobbed horns on helmets at least are known in the Scandinavian Bronze Age (Cf. H. Norling-Christensen, *Bronzealderhjaelmene fra Vikso* (Copenhagen, 1946).

its great interest is the confirmation it affords of the use of this type of fire-dog singly, and in a frontal position to the hearth, in the Dark Ages. It is to be expected that the use of such single fire-dogs should have continued later, but here it is difficult to come by direct or indirect information. The most hopeful source is manuscript illuminations, and it is probable that a thorough search of the available material of the earlier Middle Ages would provide examples. I have been able to trace one representation of a single, double-ended fire-dog placed frontally to the fire in a 14th century MS (9) (FIG. 2), though the uprights end in knobs with no sign of zoomorphic features: the existing fire-dog on the central hearth at Penshurst is often cited in this connexion but it does not seem to be itself precisely dated except by its presence in the 14th century hall. A curious, undated, example of a British fire-dog which still retains its zoomorphic characters however is that dug up eight feet below the surface in a bog at Kielder, Northumberland, and now in the Alnwick Castle Museum (10) (FIG. 3): it has a primitive



FIG. 2. DOUBLE-ENDED FRONTAL FIRE-DOG, XIV CENTURY
from Bodleian MS Douce 6

look, and may well be early medieval, but the arrangement of the spit-loops suggest that it was one of a pair of lateral dogs, comparable with those from Central Europe described below.

By the 15th century the evidence of literature and of manuscript illuminations (11) is in agreement for the general adoption of fire-dogs in pairs in Britain, this being of course in response to the moving of the fire from a central hearth to a position against, and later recessed into, a wall. But elsewhere in Europe the most interesting survivals of the single frontal fire-dog persisted until the 19th century, and these were studied in a series of papers by Rudolf Meringer and others in the 1890's (12).

⁹ Bodleian MS Douce 6, reproduced by D. Hartley, *Mediaeval Costume and Life* (1931), p. 112, fig. E.

¹⁰ *Arch. Aeliana* VI, 14; *Cat. Alnwick Castle Mus.*, 203.

¹¹ A convenient 15th century illustration is reproduced in D. Hartley and M. Elliot, *Life and Work of the People of England: XV Century* (1925), Pl. 30, a.

¹² R. Meringer, 'Studien zur Germanischen Volkskunde', *Mitt. Anthrop. Gesell. in Wien* XXI (1891), 101-52; XXII (1892), 101-6; XXV (1895), 56-68; J. R. Bünker, 'Das Bauernhaus in der Heanzerei (Westungarn)', *ibid.*, 89-154; G. Bancalari, 'Forschungen u. Studien über das Haus', *ibid.*, XXVI (1896), 93-128. For Hungarian fire-dogs see also *Debreceni Déri Múzeum Evkönyve* 1934 (Debrecen Museum Year Book) p. 206, figs. 19, 20.

FIRE-DOGS AGAIN

The three main areas in which Meringer, Bünker and Bancalari recorded the local folk-culture in detail were around the Alt-Aussee in the Austrian Alps south of Salzburg, in the Oedenburg region of Western Hungary, and in the Italian Tyrol. To deal with the last region first, here were found the most interesting survivals of central hearths without back-stones, either in circular or polygonal annexes to the main house, with a central chimney rising from a conical roof, or in a small square room off the main living-room, with a central canopy or hood hung down over the central hearth to catch the smoke. In a house described in some detail between Fiera di Primero and Feltre a bench ran round the walls of the little 'hearth-room' on three sides (the third being open to the living-room), so that the fire could be enjoyed from all aspects, and in a sketch of this interior (re-drawn in FIG. 4) we see a fine double-ended firedog, with tall uprights terminating in open-work stands for cups of hot drinks, placed frontally across the main aspect of the fire on its raised hearth-stone (13). This is a quite explicit statement of precisely the state of affairs inferred for our Iron Age double-ended fire-dogs with their tall decorative uprights.



FIG. 3. DOUBLE-ENDED IRON FIRE-DOG FROM KIELDER, NORTHUMBERLAND
Alnwick Castle Museum

In the Austro-Hungarian areas studied, the farm-houses are timber-built and log fires are the obvious type in such wooded country, and the hearth was built out from one wall of the kitchen in the manner of an 'apron' stage of Elizabethan times, and so preserves the arrangement of the *pentan faen*, this being formed by the wall with a clay fire-back. There are therefore three sides open, and either single or paired fire-dogs could be used.

Meringer found that both types were indeed in use. The dogs themselves presented a great variety of forms, and clearly show their zoomorphic prototypes in their 'horned' tops of the uprights in the taller (and typologically earlier) specimens. A type with tall, horned uprights and spit-rests on the faces of these could only be used in front of the fire, and by itself, and this looks as if it stood nearest to an ancient original form. But symmetrical forms with spit-rests at the outer edge of the uprights or with no spit-rests at all were also used frontally and singly, though from these a good typological series can be traced to asymmetrical form used in pairs, and side-by-side with these there was the use of a pair of symmetrical dogs, in such a manner as to provide room for two sets of spits, one at the back and one at the front of the fire if necessary. There were also small, low, fire-dogs used frontally, the uprights of which had dwindled to

¹³ Bancalari, *loc. cit.*, fig. 149.

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obscurity and retained no zoomorphic features, and these again had similar asymmetrical derivatives used in pairs.

We can indeed utilize these very interesting Central European fire-dogs to fill in the gaps of a schematic pedigree of these objects from the Iron Age through the Middle Ages and into recent times (FIG. 5). The tall form, often with spit-rests, may have persisted side-by-side with a smaller, lower, form from the Iron Age onwards—there are good Hallstatt examples of this latter type, without zoomorphic characters, from Beilngries in Bavaria (14)—and both seem to have played their part in the final, post-medieval development of the paired fire-dog. The tall form, originally crowned with an animal's head, has this feature transformed, as in the Italian Tyrol double-ended fire-dog, into a

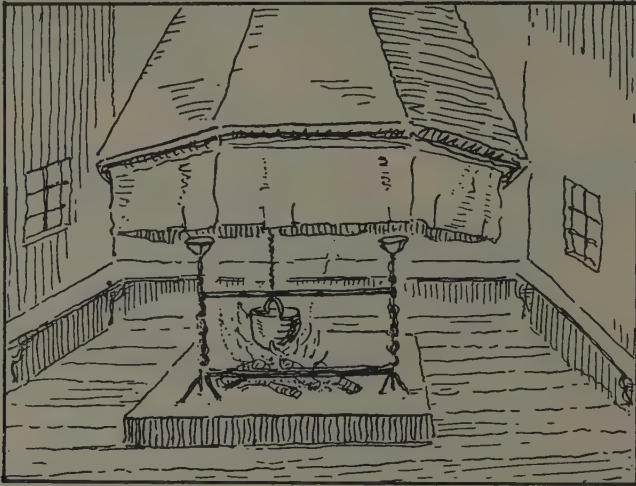


FIG. 4. CENTRAL HEARTH WITH DOUBLE-ENDED FRONTAL FIRE-DOG:
ITALIAN TYROL, XIX CENTURY
after Bancalari

wrought-iron holder for a cup of hot drink, while the smaller and more usual fire-dog echoes the simpler form without any animal adornment.

It will be seen therefore that the evidence of archaeology and modern folk-culture combine in the most pleasant manner to support the general validity of Peate's original contention. The tall zoomorphic fire-dogs of the Celtic Iron Age seem certainly to have been used frontally on a central hearth, though I would not altogether rule out the possible co-existence of low lateral fire-dogs in pairs, of the Beilngries type. But the great frontal fire-dog certainly survived into the Dark Ages, and probably sporadically in Britain and elsewhere on the Continent up to the 14th century at least, its disappearance being directly connected with the vanishing of the central hearth. In the remote country regions of Austro-Hungary and North Italy however we have seen that the single frontal fire-dog survived until recent years, though side-by-side with its lateral descendants.

¹⁴ *Archiv. f. Anthropologie* NS V (1906), Corres. 128; *Reallexikon* II, 126, Pl. 66.

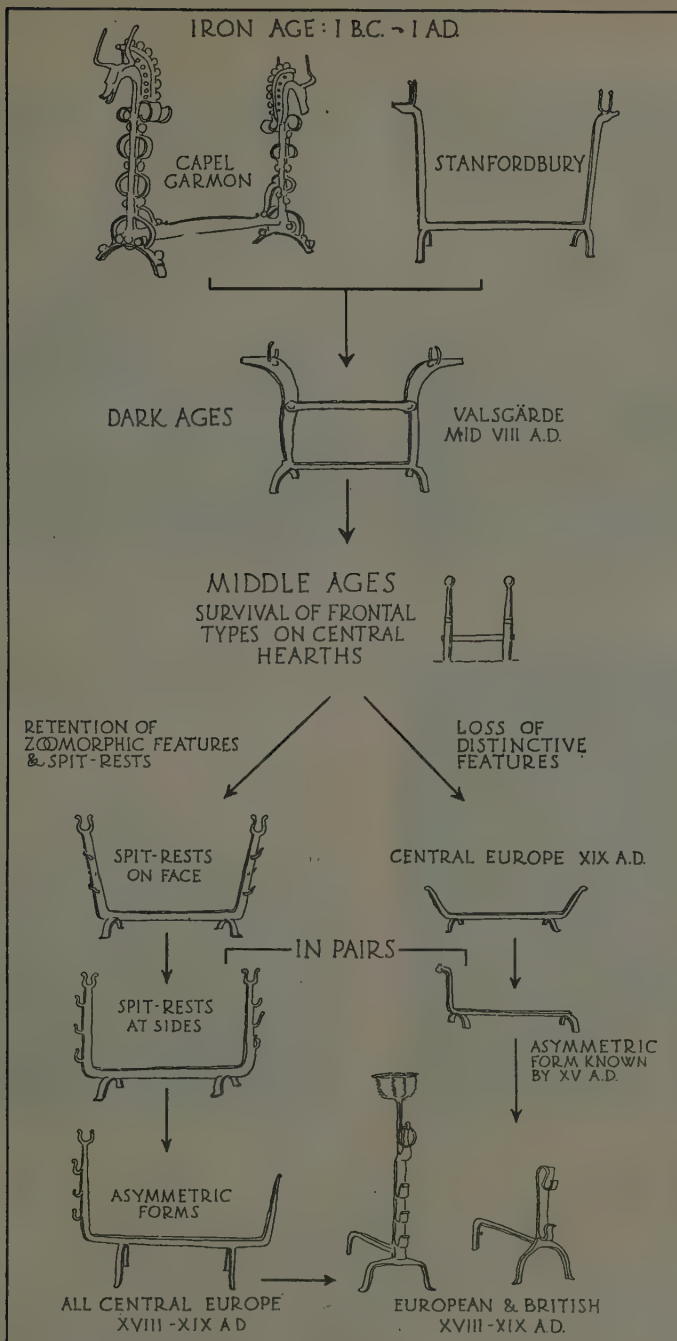


FIG. 5. SUGGESTED DEVELOPMENTS OF FIRE-DOG TYPES IN EUROPE

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There is one last point. Meringer pointed out that while fire-dogs played such an important part in the hearth-furniture of the Central European regions he was discussing, they were apparently unknown in the 19th century folk-culture of either Russia or Scandinavia, the two great log-burning areas, where their use might be expected. There is unfortunately no Europe-wide study of hearths and their furniture, in the manner of Sigurd Erixon's papers on cognate problems, to which we can turn for information on the recent distribution of fire-dogs, except the short pioneer study of Haberlandt (15), who records the contemporary use of fire-dogs of zoomorphic and other types in the areas already mentioned, and also in the Pyrenees, Yugo-slavia, Albania (a zoomorphic lateral fire-dog from here is illustrated by Haberlandt) and elsewhere in the western Balkans. But it is tempting to suggest that the typological counterparts of the Alt-Aussee, Oedenburg and Italian Tyrol frontal fire-dogs in La Tène times represents something more than a formal similarity: here again I know of no full list of La Tène fire-dogs in Europe, but the half-dozen best-known specimens have been found in an area roughly bounded by Lucerne—Carinthia—Prague—Fedessee, within the eastern limits of which the strongest modern area of survival lies. In Britain again, survival is strong in a region which has produced the finest Celtic series, and the isolation of the Valsgårde example in the great range of Scandinavian Dark Ages material strongly suggests that its place of origin was not where it was found buried. Is there, in fact, a cultural tradition of the use of the zoomorphic frontal fire-dog for two thousand years within the areas once colonized by the La Tène Celts? It is not impossible: it is rendered less fantastic when we remember that the ordinary contemporary British blacksmith's technique of shrinking-on the iron tyre of a cartwheel is a distinctively Celtic feature going back to the third century B.C. in these islands, and unknown to the Mediterranean world (16).

¹⁵ In G. Buschan's *Illustrierte Völkerkunde*, III (Stuttgart 1926), 457-460.

¹⁶ C. Fox, *A Find of the Early Iron Age from Llyn Cerrig Bach, Anglesey* (1947), 12.

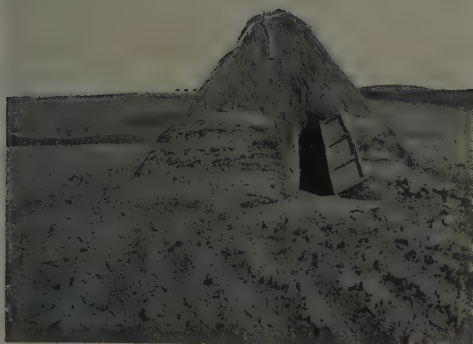
PLATE I



1



2



3



4

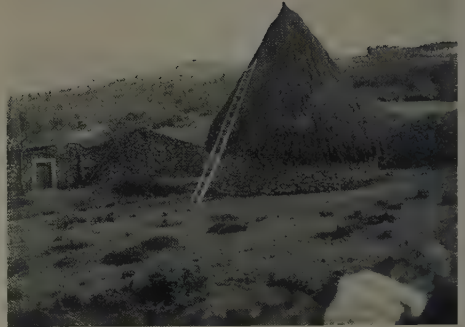
SHEPHERDS' HOUSES, NEAR CIUDAD RODRIGO, LEON PROVINCE, WESTERN SPAIN, 1947
1-3, EXTERIOR VIEWS. 4, INTERIOR, WITH HEARTH IN FOREGROUND (see p. 40)

Phs. S.P.

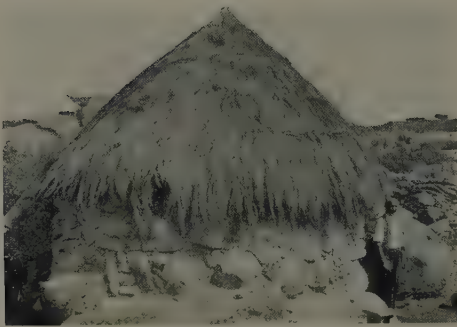
PLATE II



1



2



3



4

1 and 2, CIRCULAR STORE-HOUSES, BEIRA DISTRICT, PORTUGAL, 1947 (*see* p. 42)
Phs. S.P.

3 and 4, CIRCULAR DWELLING-HOUSES, BEIRA DISTRICT, PORTUGAL, 1946 (*see* p. 42)
Phs. A. do Paço

The Technique of Prehistoric Metal Work: a review*

by V. GORDON CHILDE

A MINUTE study of metal work can make extraordinarily illuminating contributions to the history of science and to economic history, and can substantially enhance our appreciation of early art and culture in general. But it requires not only technical and historical knowledge but also quite costly apparatus and an unusual complaisancy in museum directors. Oldeberg possesses an expert's familiarity with metallurgical processes and a truly remarkable mastery of the relevant geological and archaeological literature. The State Historical Museum in Stockholm is equipped with a good spectroscope wisely used for the increase of scientific knowledge. To the same end various Swedish museums have permitted the analysis of 640 specimens and a microscopic examination of 34 dating from the 'Copper Age' to Viking times. (The number of analyses actually at the author's disposal and published is brought up to 747 by the inclusion of earlier reports on Danish, Norwegian and Finnish objects). The publication of such results alone, especially when as here illustrated by 800 splendid photographs, would constitute an outstanding event in prehistory.

But the present work is far more than a mere publication of the results of analyses and prolonged and intensive study of Scandinavian objects of copper, bronze, gold, silver, lead and tin. In the interpretation of his results the author surveys the whole province from India to the British Isles. He enumerates the reputed sources of the several metals throughout this area, cites the work of all leading authorities on early metallurgy (the bibliography in vol. II comprises about 1800 entries!) and enriches his account of the Scandinavian craftsmen's procedures by comparisons with those of their colleagues elsewhere, for instance at Jarlshof in Shetland. For the benefit of those who find Swedish difficult there is a German résumé. Finally an exhaustive index helps to overcome difficulties an archaeologist may find in following an arrangement dictated by metallurgical considerations.

Before proceeding to an appreciation of the achievement, a word of warning is needed, especially for those who have to rely on the German résumé. Oldeberg accepts, apparently without reserve, the conclusions of Witter. Indeed the German version of chapter I reproduces at length the author's summary of Witter's conclusions without reference to the good historical discussion contained in the Swedish text. Now Witter has deduced an independent discovery of copper, of copper smelting and finally of bronze in Central Germany from analyses of some 500 metal objects and a large number of local ores. But these conclusions, elaborated from 1936 to 1940 in a series of books and articles, accord so admirably with political dogmas then current as to arouse a certain suspicion. Doubtless Witter's analyses reveal significant agreements in composition between metal objects and Central German ores. But one cannot help wondering whether, if other ores, say from Eire or Slovakia, had been examined half as thoroughly, some would not yield just as good proportions of the relevant 'impurities'. Surely there must be something wrong with analyses that lead to the conclusion that, of the

* METALLTEKNIK UNDER FÖRHISTORISK TID. By Andreas Oldeberg. 2 vols. 243 and 373 pp., 5 and 16 plates, Lund, 1942-3.

copper found in the lake-dwellings of the Attersee and Mondsee in the heart, of the metalliferous Alps, some came 'probably from Central Germany, a great deal perhaps from Hungary'.

Furthermore Witter claimed that the independent metallurgical industry of Central Germany passed through successive stages—native copper, smelted copper, copper with tin as an impurity due to the use of stanniferous ores, bronze due to the deliberate addition of tinstone to copper ore and alloys of copper and tin—and treated this plausible technological sequence as also a succession in time, actually replacing typological by chemical criteria of age. The application of these criteria leads to results that are not only incompatible with the conclusions of normal prehistory, but are even self-contradictory, as when Witter argues that artifacts, representing different chemical stages, in a single hoard must have been manufactured at very different times.

Oldeberg has been misled into similar inconsistencies. For instance, he follows Witter slavishly in his discussion of the well-known hoard from Bygholm in Jutland, assignable to the Dolmen or Early Passage Grave period of Danish prehistory. Witter's analyses prove that the flat axes, dagger and armlet from this hoard were made of very pure, and probably native, copper—a highly significant result. We need not admit that the minute quantities of impurities contained in them suffice to prove that this copper came from Zwickau until many more analyses of native copper from Hungary, the British Isles, and elsewhere in Western Europe are available for comparison with the figures here given. Still less need we agree that the presence of arsenic as a deliberate addition in daggers from Remedello in Upper Italy refutes Reinecke's synchronism between Remedello and Bygholm or indeed has any relevance to the absolute ages of the two assemblages.

In the chronological classification of Scandinavian metal objects Oldeberg uses Copper Age (*Kopparålder*) in Witter's sense as anterior to the Bronze Age, which is divided in the traditional way into *äldre* and *yngre*, with rather curious consequences. A polygonal battle-axe (No. 37), should be contemporary with Bygholm since similar stone weapons do belong to the Dolmen and earliest Passage Grave period. In fact, though he considers it to have been cast in a closed mould (II, p. 136 and fig. 283) Oldeberg assigns it to the 'Copper Age' as it proves to contain only 0.3 per cent tin. But another metal battle-axe (vol. I, p. 133, fig. 90) that in form also 'agrees remarkably well with certain stone battle-axes from the Northern Province' on the strength of a tin content of 8 per cent is qualified as belonging to the *äldre Bronzeålder* and so to the same period as a classical ceremonial axe with spiral ornament, wide-splayed blade and elongated shaft-tube (No. 69, pl. IV) which does contain the same percentage of tin.

The celebrated hoard from Pile leads to more patently contradictory conclusions. 'The disparity in the chemical composition of the objects comprised in the hoard can best be explained by the assumption that the axe (containing 10.87 per cent tin) is of later date than the remaining constituents'. (p. 132). Montelius long ago observed from purely formal criteria that this hoard contained objects of different provenance, and that would explain perfectly well the divergences in their chemical composition.

But criticism of Germanic aberrations has already taken up too much space in a review that should be a cordial approbation of a really fine piece of Swedish scholarship. The rest must therefore be devoted to indicating the arrangement of the book with a bare mention of a few important results. The first chapter deals with the use and sources of the various metals—copper, tin, lead, zinc, antimony, arsenic, silver and gold, and considers in particular their importation into Scandinavia in the form of ingots or semi-manufactured articles. Raw copper is represented by ingots in the form of rings already

THE TECHNIQUE OF PREHISTORIC METAL WORK

in the early stage of the Bronze Age, anterior to the first graves furnished with bronze weapons, that is represented by the hoard from Pile. In the Late Bronze Age other kinds of ingot in the form of cakes, bars (sometimes containing a high percentage of zinc) are represented. A convenient account of ingots from the Aegean and other parts of Europe is added.

Tin ingots, in the shape again of rings, appear in the North first in the Late Bronze Age. In form and in their high lead content they agree with one from the hoard of Achtertyrt in Morayshire and so probably came from Cornwall. No earlier objects of pure tin are found in the North, but the author gives a useful list of such objects found elsewhere, inflated by some Early Minoan tin buttons due to a misreading of Evans' account of those from Monte Bradoni in Tuscany. The tin for earlier Scandinavian bronzes presumably came from Vogtland. 'It is probable that the exploitation of the rich deposits in Western Europe began rather later when the value of bronze began to be more widely recognized'.

Pre-Roman bronzes containing zinc have been rather neglected by prehistorians perhaps owing to suspicions of their antiquity or authenticity. Oldeberg, here diverging from Witter, shows these suspicions are unjustified. Already in the Early Bronze Age a halberd (bronze shafted) from Arup, contained 5.6 per cent of zinc. Its form as well as its composition points to a Central German origin. A remarkable discovery in a Hunebedde at Buinen, Drenthe, published by van Giffen (*Opgravingen in Drente*, 1943, p. 431) after the chapter was written, has come to confirm the author's faith in these objects. The Stone Age tomb contained a spiral of metal composed of 76.8 per cent copper and 14.9 zinc presumably an 'accidental' alloy due to smelting a copper ore rich in zinc such as could be found in Central Germany. In the Late Bronze Age the celebrated shield from Nackhülle contains 7.6 per cent zinc while some bar ingots from Gotland and Skane also rich in zinc may represent raw metal imported from the Urals. Conversely Tallgren has drawn attention to a number of bronzes of Scandinavian form found in eastern Russia, and now we learn that one of these—a Mälär axe found near Kazan—contains 12 per cent zinc, 8 per cent tin and 3 per cent lead.

Chapter II deals with the question of the extent to which metals were alloyed in the North rather than arriving as alloys already mixed. The variable tin content of Northern bronzes might be due to the use of imported scrap metal by the early smiths since some of the volatile metal would be lost in remelting. But Oldeberg gives figures to show that the proportion of tin used was deliberately related to the method of casting; axes and other articles that could be cast in open-hearth moulds often contain less than 10 per cent even in the Late Bronze Age while ornaments cast *cire perdue* contain up to 14 per cent.

Remains of prehistoric smithies in the North, described in chapter III, begin in the Late Bronze Age and are on the whole less instructive than those from Jarlshof and elsewhere.

The first chapter of the second volume is devoted to the mechanical treatment of metal and the tools employed. Bronze hammers and anvils are rarer in Scandinavia than in West and Central Europe and tongs are quite unknown (after all those from Heathery Burn are unique in the temperate zone), but smiths' tools of the Iron Age are exceptionally well illustrated there. The author shows that beaten metal work was not unknown in the Northern Bronze Age, though of course the Northern smiths preferred to get the effect by casting. Their preference may, he suggests, be due to habitual use of good bronze while their Hungarian colleagues, obliged to use purer copper, would be driven to the employment of the hammer owing to the difficulties of casting such metal.

The ornate shield from Nackh lle is certainly of beaten bronze with the pattern hammered up, but admittedly may be of West European manufacture. Oldeberg suggests it may have been hammered out on a carved wooden matrix, and the recent discovery of the wooden negative for a simpler shield in Eire would support his conclusion.

Enlarged photographs show that the superb spiral patterns characteristic of Northern Bronze Age art were executed with hammer and chisel on the metal, not engraved in the wax model before casting. Chiselling was also used in some cases to produce the effect of torsion in rings, but in other cases rectangular bars were actually twisted, as microphotographs can show. In one class of torques belonging to the latest Bronze Age the northern bronze-smiths used precisely the same process as Maryon has proved were used by Irish goldsmiths in imitating Cypro-Mycenaean products. But very often the Northern smiths got the effect of torsion by *cire perdue* casting.

The latter is fully described in chapter II together with other methods of casting and the moulds and crucibles employed therein. Even a very archaic looking flat axe of relatively pure, and probably native, copper is shown by microscopic examination to have been cast, but no moulds for flat axes nor yet for other 'Copper Age' types, like battle-axes, have been found in Scandinavia. Two-piece stone moulds are on the contrary not rare but, with only seven exceptions, all the 110 listed from Sweden, Denmark, Norway and Finland belong to the Late Bronze Age. Most are made of soap stone and their distribution, plotted on pl. ix, presents a rather curious pattern. Accordingly most Northern bronzes must have been cast in clay moulds, formed on a pattern or on a wax model, and it was undoubtedly a practised mastery of these techniques that enabled the Northern smiths to achieve such magnificent results. From minute examination of the products Oldeberg can reconstruct in detail the ingenious processes employed in casting and in repairing and joining—by casting on pieces of metal. This craft of *cire perdue* casting of course outlived the Bronze Age and culminated in the superb brooches and clasps of the Viking Age with their incredibly complicated ornament, though even in the Migration Period the art of hammering out intricate patterns on a matrix had reached a high level.

The Swedish work just reviewed is a challenge to archaeologists in other lands and sets a standard for them to emulate. In particular it demands an English version—not a translation, but an equally detailed, comprehensive and well-illustrated study of metal artifacts—and ores—from the British Isles. For instance, the 747 analyses here tabulated form a body of data for establishing, with greater certitude and precision than typological considerations alone allow, the extent, direction and routes of commerce, and that not only for prehistoric times; written records provide scant testimony as to whence the Vikings, for example, secured the silver and tin they used so freely. Some comparable data are indeed available for Germany and the U.S.S.R. The claims of the British Isles to have been one of 'the workshops of the world' already in prehistoric times, cannot be substantiated till the chemical compositions of British bronzes and Irish goldwork and of the ores of Cornwall, Eire and Wales be far better known. Such studies in Britain and elsewhere could alone produce a scientific refutation of the imperialist theories of Witter and his countrymen. It is worth noting in conclusion that the author thanks for help, not only the authorities of the Statens Historiska Museum, but also AB. Svenska Metallverken, Finspongs Metallverks AB., Kopparbergs Bergslags AB., and Bolidens Grov AB.

Deraheib Gold Mines

by the late SIR DOUGLAS NEWBOLD

DERAHEIB is the name of an ancient site in the Wadi Allagi in lat. $21^{\circ}57'$, long. $35^{\circ}8'$, i.e. just within the Sudan political frontier. The name is undoubtedly Beja in form but may be derived from the Beidawi 'd'ir' 'to build' or the Arabic 'Deir' which is used in Egypt for monasteries or other ancient buildings. Possibly these two words are connected with each other. It should be noted that there is a place called 'Dereheib Baanet', 40 miles north of Deraheib, with ruins of a tomb, and the famous Assarema Deraheib 'The Seven Buildings', in Khor Gamarota 20 miles inland from Akik (1).

Deraheib was an ancient mining site and it is believed to be the mine represented on the oldest map in the world, the Turin Papyrus (xix Dynasty=14th cent. B.C.) which describes mines existing in the Wadi Aliki (Allagi). The mine was opened by King Seti I (1360 B.C.) and in 1290 B.C. we are informed of difficulties of reaching it and working it owing to lack of water. Seti I discovered other mines in Wadi Allagi.

Other mines in the Eastern Desert, further north, were worked as far back as 5th Dynasty (2750 B.C.).

After fall of 20th Dynasty (1090 B.C.) Nubia became independent and Egyptians had to abandon Allagi, and it was not till Ptolemaic times (4th to 1st Centuries B.C.) that Deraheib was reopened, probably about 240 B.C. or later. Agatharcides, Diodorus and Strabo (2nd and 1st centuries B.C.) describe the mining operations minutely. Vast numbers of convicts and prisoners of war were employed, and galleries driven into the hillsides, and the auriferous rock hewn out and pounded in stone mortars with iron pestles. The women broke up these poundings to dust, which was then washed. The galleries and washing pans are visible at Deraheib. The gold dust was then mixed with lead, salt, silver alloy and barley, and cooked for 5 days into a nugget.

With the advent of the Roman occupation (40 B.C.) records cease and mines were apparently once more abandoned. Towards middle and end of 9th century A.D. the Moslem conquerors of Egypt turned their attention to Deraheib and other Sudan mines. In A.D. 869 Abd el Rahman el Omari, an adventurer, reopened Deraheib, and supplied it by camel convoys from Aidhab (near Halaib) which was the port for Allagi gold for 200 or more years.

No records of mining by natives are obtainable between 10th and 19th centuries. Mohd. Ali Pasha sent various European engineers and scientists into the Eastern Desert in 19th century.

M. Linant de Bellefonds, ex Director-General P.W.D. Egyptian Govt., visited Deraheib in 1832 and described the site fully in his book 'L'Etbaye', with its streets of stone houses, two 'châteaux', remains of Mosque and cemetery. The Mosque and graves are Moslem, but the Castles and most of the town were in his opinion older (2).

¹ J. W. Crowfoot 'Some Red Sea Ports in the Anglo-Egyptian Sudan', *Geogr. Journ.*, May 1911.

² Prof. Monneret de Villard assigns them to the 10th century A.D. See his *La Nubia Medioevale*, I, 276, and his *Storia della Nubia Cristiana*, 1938, 115.—Ed.

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I visited Deraheib by car with Mr Sandars on 1st January 1930, from Sallala via Onib Mines. We took one day to Onib, about 120 miles, and one day out to Deraheib and back to Onib 42 miles each way. A motor-road was just being completed from Sallala to Deraheib on this day.

Deraheib remains consist of two stone-built castles, one in fair preservation, ruins of two villages of stone-built houses, a ruined building with small arched windows (like clerestory windows) which may be a mosque or a church, and a cemetery. The feature of the village is the number of arched doorways.

The castles are unique, reminiscent of castles like Pevensey or Burgh. They had two stories, and the eastern perhaps three with fine gateways, towers and bastions at the corners and a maze of rooms inside. The north western has a fine tower about 40 feet high, hollow inside, with a small arched doorway leading up steps through another arched doorway. The east castle is more dilapidated but has walls 9 ft. high of about 11 rooms and a central space and a ruined stairway leading to a parapet in good condition. Both buildings are of flat slate slabs well fitted together with some sort of mud mortar or cement. They and the houses have sand-drifts inside and would be worth clearing as a lot of pottery can be picked up, some of which appears to have Egyptian patterns (Ptolemaic or earlier) and some has a green glaze (Chinese like that from Aidhab ?) and some is coarse with a fine criss-cross pattern (early Beja ?). Mixed up with these sherds is a good deal of glass mostly coloured and probably Roman-Arab from Egypt (9th century A.D. ?) as glass-blowing and the great glass period at Alexandria was post-Ptolemaic. There is also modern stuff, fragments of crucibles, and modern earthenware and broken glass.

There are no records in old Red Sea Province files of the *modern* mining operations carried on at Deraheib except a mention in Mr Dunn's Bulletin no. 1 (S.G. Geological Survey) published in 1911.

The mines were reopened unsuccessfully by the 'Deraheib and African Syndicate' in 1902-3. The area of Deraheib and Onib was originally G. Ogilvy Haig's concession (v. map in Dunn's Bulletin). The Deraheib Syndicate was managed by John Taylor & Sons and assay reports were made by A. Llewellyn in January 1908. These were presumably unpromising as the Syndicate relinquished their concession on 1st December 1908.

The old workings are about 1000 yards down the Wadi from the Castles, opposite the village. They consist of excavations on two hills, which are honeycombed with workings especially the west one (which has one cave full of bats) low down on the hill-side. On the southwest side of this hill are the old washing places. Tons of rock must have been carted away and huge gangs of labourers employed to carry water up the hill. The two hills rise 300 feet above the wadi and nine lodes traverse them, and intersect one another. The excavations probably reached a depth of 150 feet. Hundreds of tons of bat guano had accumulated in the old drives and slopes. Quartz varied in width from a few inches to 12 feet. Assays as high as four ounces of gold to the ton were made. The modern mining operations tried to develop the lodes below the old workings. There are two wood-lined shafts about 70 feet deep with ladders on the east hill about 150-200 feet up.

There is no water now at Deraheib ; but a Magwal (Beidawi for 'gamām' or shallow scoop-well) exists in Khor Ferida about $1\frac{1}{2}$ miles east and there is an old deep well (now dry) at Bir Momeitra on the frontier about 8 miles northeast.

Notes and News

AN EARLY BRONZE AGE SANCTUARY SITE IN SCOTTISH LOWLANDS

The class of Early Bronze Age religious monument consisting of a circle of standing stones within a ditched enclosure, having an external bank and two opposed entrances, and best typified by Arbor Low in Derbyshire, has been known for many years to have a very wide distribution in Britain. In the north, the Ring of Brodgar in Orkney, and probably the adjacent Stones of Stenness, seem members of the group, and a miniature example occurs in Aberdeenshire at Broomend of Crichtie. A site at Ballymeanoch, Argyll, seems another very small version of the same general type. Recent field-work in West Lothian brought to light what appeared to be another such monument, hitherto unrecorded, and a short season of trial excavations in September 1947, carried out by voluntary student labour working under the direction of Professor Stuart Piggott, has confirmed the original attribution and brought to light additional features connected with the later history of the site.

The new monument is on Cairnpapple Hill, near the village of Torphichen in the Bathgate Hills, 17 miles west of Edinburgh. The most conspicuous object on the site is the cairn which gives its name to the hill, but the earliest feature was found to be a roughly circular area 130 feet in diameter, enclosed by a rock-cut ditch, separated from an external bank by a wide berm, the diameter of the bank, crest to crest, being 200 feet. There were two original entrances, to north and south. Within the ditch, about 20 feet from its inner edge, had stood a stone ring consisting of uprights spaced at intervals of about 14 feet, and perhaps comprising some 25 to 30 stones all told. All these stones had been bodily removed, but their presence was attested by stone-holes little more than a foot deep beneath the rock surface, with packing-stones still remaining at the sides. A few scraps of unornamented Beaker ware were found on top of the primary silt of the ditch, and a grave for a crouched inhumation burial, the bones of which had dissolved away in the acid soil, was found a few feet away from a stone-hole and contained a Type C beaker.

The closest general parallel for this monument is that of Arbor Low, which has a diameter from crest to crest of the bank of 250 feet, an area within the ditch about 110 by 130 feet, and opposed entrances roughly north and south. Here there remain 42 stones of the circle, all now recumbent, and a central setting probably of three stones. The wide berm at Cairnpapple recalls the similar feature at the Devil's Coits at Stanton Harcourt (Oxon), and the circles at Thornborough and on Hutton Moor, N. R. Yorks. The Cairnpapple stone-holes resemble those of the Devil's Quoits and (on a smaller scale) those of Avebury.

A secondary feature of great interest at Cairnpapple is the cairn to which reference has already been made. It is situated eccentrically to the original monument, but within it, to the west, and although only preliminary work has been done to it so far, appears to be of two periods. The first phase is represented by a cairn of large boulders bounded by a curb of very large stones, up to 6 feet long, laid on their sides on the old ground surface and forming a circle about 50 feet in diameter. There seems every likelihood that these stones are in fact those removed from the stone-holes of the earlier structure and re-used: a very curious and interesting sequence. This first phase is at

present of uncertain date, but the cairn was subsequently enlarged to twice its diameter, with a new outer curb of large boulders (though not so large as those forming the inner curb), again not set in stone-holes, but laid on the old ground surface. This enlargement overlapped the line of the ditch of the original monument on the west, and it was found that the stones of the outer (100 feet) curb were set on top of the three-quarters silted-up ditch, evidently forgotten and completely neglected by this time. A cremated burial in a typologically late Overhanging-Rim urn within the area of the enlarged cairn may well give an indication of its date, about 1200 B.C. The original cairn should therefore date between this period and that of the Beakers early in the second millennium, but of course cannot have been built before the abandonment and disuse of the earlier monument.

A group of four rock-cut graves for extended inhumations, oriented roughly east-west, were found on the east side of the original monument, within the ditch. There were no grave-goods and the skeletons had vanished, but one grave cuts through a stone-hole and it is likely that we are dealing with a small cemetery of Early Iron Age date, within the first few centuries B.C. and comparable to the rather analogous graves of that period from Blackness Castle, Burnmouth and elsewhere in Scotland. The implication of continued sanctity of the site is interesting.

It is hoped to continue the excavations next year, when the available area of the primary structure will be completely stripped, and the cairn fully examined. Already however a considerable contribution has been made to our knowledge of ritual and burial monuments of the Bronze Age in North Britain.

STUART PIGGOTT.

JACK AND THE BEAN-STALK

This familiar English fairy tale, though in its entirety perhaps peculiar to these islands, is a synthesis of a number of themes which separately are found in the folk-lore of widely scattered peoples. The hen that laid the golden eggs, the harp that began to play of itself, a strange world above the sky inhabited by beings of supernatural character, a magic seed that grew into a tree reaching up to heaven, are features in tales told by simple folk literally from China to Peru. Let us consider a little more closely the last two themes.

To primitive minds

‘ That inverted bowl they call the sky
Whereunder crawling cooped we live and die ’

is an object of never-failing mystery and a fertile source of myths. How it is supported and what lies beyond it are questions variously answered, and a difference is discernible between the folk-lore of peoples whose physical background is tropical forest and of those who live in more open country. In Greece the sky rested on Mount Olympus, and the rebellious Titans piled Pelion on Ossa, one mountain on another, in an effort to reach it : or the sky rested on the shoulders of Mount Atlas in North Africa, imagined as a weary giant. In Japan the sky was thought of as supported on stone pillars. But where the equatorial rainbelt produces jungle the sky is more often depicted as supported by giant trees : such a belief has been reported as current amongst the Caribs of the West Indies, the Indians of Guiana and Central America, the Dyaks of Borneo and other dwellers in tropical forest.

It is possible also to detect a further difference between the beliefs of North and South. In the North where the contrast between summer and winter is very marked and the winter nights are long, the belief in an underworld of perpetual night, of winter

without end, is wide-spread and plentiful examples from Classical, Teutonic, and Slavonic mythology will be recalled. In tropical folk-lore, the abode of beings other than mortal man, whether they be the spirits of the dead, the gods or other non-human creatures are more commonly considered to be either on the earth or above it. But in all three cases human visits to these normally inaccessible regions are believed to have occurred, and the Jack of our story is akin to Heracles, Orpheus and True Thomas. It may thus be suspected that our fairy tale, at any rate in respect of this feature of a tree reaching up to a world inhabited by strange beings, had its origin in a distant and very different clime from ours. And the other element we are considering, that of a magic seed growing up almost overnight till it reached the heavens, strengthens this suspicion. The incredible rate of vegetable growth in regions of monsoon or tropical rain has to be seen to be believed: and there must be many English children who, like the writer long years ago, wonder how anything so tenuous and fragile as a bean-stalk, fading at the first breath of winter and needing a stick for its support, can be thought of as propping up the palace of a giant. Of all possible stems why a bean-stalk?

Now there occurs very widely distributed in tropical forest a giant bean known as *Entada Scandens*. The pods are 2-4 feet long, 3-4 inches wide and contain about a dozen perfectly round flat beans 1-3 inches in diameter and about $\frac{1}{2}$ inch deep. The plant is found growing in the East Indies, the Malay peninsula, Burma and N.E. India, W. Africa, the West Indies and Central America, and though formerly considered to be one species is now subdivided into a number, all however belonging to the same genus. About 30 per cent of the beans have the remarkable power of floating in either fresh or sea-water for an indefinite period. Indeed, water-born beans appear to be the principal propagators of the plant and this buoyancy has brought about their dispersal by ocean currents to many countries in the temperate and even the arctic zones including the shores of these islands. The beans brought to our beaches probably come from the West Indies as part of the Gulf Stream drift. Wherever they have been found their exotic appearance has given rise to a number of quaint beliefs and superstitions: there is record of their being held in high regard as fertility emblems and they have been put to practical use by conversion into snuff boxes.

In the wet warm jungles of their native lands the beans grow up a tree with remarkable rapidity till they reach the level of interlacing boughs, which in tall jungle may be perhaps 30-50 feet up. They then spread horizontally, strangle their foster-parents, and come to stand as independent trunks, increasing in the course of years to a circumference of several feet, and attaining the hard consistency of mahogany. The dense canopy of their spreading branches and large leaves may extend to over a hundred feet for a single plant and if these are numerous may form an almost unbroken roof reducing sunlight to Stygian gloom and permitting arboreal animals to scamper about unseen by those below. Here if anywhere is an authentic bean-stalk not unfit to have formed the main feature in the familiar fable.

Rarely, if ever, in the study of folk-lore can we go beyond speculation and produce proof of a scientific order, since nearly all written evidence is absent or late. All we can demand is that a hypothesis shall not strain our credulity, and shall be consistent with other evidence in the same field of enquiry. If then our bean-stalk really has its roots in a tropical jungle this is far more likely to have been in India and its eastern neighbours than in the New World whence our *British Entada* beans are derived. There must be few fairy tales that are not pre-Columbian in point of time, and India has an almost unique record in that there the growth and spread of legend has been continuous for thousands of years whereas in Europe and hither Asia it has been rudely interrupted by

the spread of Christianity and Islam. It is moreover generally accepted that there is an oriental ingredient in European folk-lore; the anthropomorphic animal stories in the Buddhist 'Jataka', themselves of Indian origin and much older than Gautama, are paralleled in Europe, the gypsies are considered to have come from India, and there are many other channels along which tales might have travelled thence to these distant shores.

Can we speculate further on the genesis of the giant whose fatal fall from the higher branches was the climax of our tale? In the Spring of 1944 the writer spent some months in the jungle-clad Naga hills near Imphal before the Japanese advanced and occupied the area. We heard, mainly in the early morning and evening, curious and unfamiliar cries travelling along the tree-tops above our leafy canopy which we finally traced to the gibbons, the anthropoid apes of S. E. Asia. Now a gibbon though smaller than a man is a giant when compared with the grey langurs and the red Rhesus monkeys which are the common denizens of Indian jungle. Moreover unlike these it readily walks erect, is easily tamed and has other human attributes: it is a heavy animal and might well sustain injury from a direct fall of 30 or 40 feet. We know that a few inches average advantage in stature or size is enough to earn a race the reputation of being gigantic, for the Gauls appeared so to the Romans and Nordic men to the Mediterranean races. Perhaps then it is permissible to suggest the possibility that the giant who had a great fall may once have been a gibbon whose mysterious cries fertilized the folk-lore of frightened villagers in east Asiatic jungle clearings.

HUMPHREY HUMPHREYS.

DUAL PERSONALITY OF SAINT GILDAS

Modern studies of the life and writings of St. Gildas have shown a very understandable concentration on the chronological problems presented by the famous 26th chapter of his *De Excidio* (1). For this reason difficulties of a quite different nature have almost entirely escaped notice. These are basically psychological, and relate to the curious discrepancies between what Gildas tells us of himself, and the information furnished both by his biographers (2) and more incidental sources.

In so far as these discrepancies have been noted at all, the tendency has been to dismiss the 'Lives' as late and unreliable. But in this case we should expect them to be marked by a large number of statements at variance with the known facts of the period, or with statements regarding Gildas from other sources. Such is not the case. When allowance is made for local bias, especially notable in the Glastonbury Life, we get a picture which is, within its limits, clear, self-consistent, and in no way contradicted by any outside source except the *De Excidio* itself.

Gildas, as seen by outside sources, is the son of a British kinglet named Caw, ruler of the fertile region of Arecluta (Renfrewshire). Gildas, born perhaps c.500, is one of a very large family, several of whom bear names of a decidedly Pictish cast (e.g. a sister, Peithien, 'Pict-born', from *Pectigena). This is not surprising in view of their location, but it is to be noted that Gildas' father appears in medieval Welsh literature as Caw Prydyn, 'C. of Pictland' (rendered 'of North Britain' in Lady C. Guest's translation of the *Mabinogion*). It is possible that he is the Galan, Calan or Gawolan 'Arilith' (of Arecluta?) who ruled as High King of Pictland c.512-23.

¹ *De Excidio et Conquestu Britanniae*. In Mommsen; *Mon. Hist. Germ., chronica minora*, vol. III (1896).

² Bibliographies in Kenney, *Sources for the Early Hist. of Ireland*, I, pp. 150-2, and in Baring-Gould and Fisher, *Lives of the British Saints*, II, art. S. Gildas.

Gildas may have been monastery-reared, and certainly became a monk, but a period of secular (or at any rate non-celibate) life seems attested by the fact that two sons, Cennydd (cp. Kenneth MacAlpin) and Nwython (cp. Pictish Naiton) appear in Welsh genealogies. It is not easy to dismiss these sons as apocryphal, for St. Elfoddw, bishop of Bangor (ob. 811) traced his ancestry to Nwython, in precisely the right number of generations.

From Wales, Gildas appears to have gone to Brittany, where he founded the monastery of Rhuys, toward the middle of the sixth century. His reputation as an authority on monastic discipline led to an invitation to visit Ireland, about 569. He died, shortly after his return to Rhuys, c.572.

In comparing the evidence from these sources with the internal evidence of the *De Excidio*, it will be convenient to refer to the author of that work as Gildas (A), while the saint of the Lives, Pedigrees and Annals is Gildas (B).

(a) Gildas (A) gives a completely inaccurate account of the Roman walls in North Britain. The kinglets denounced by him include no ruler north of Gwynedd. He shows no knowledge of, or interest in the region which was the birthplace of Gildas (B).

(b) Gildas (A) refers to the Picts and Irish with unmitigated detestation (3) as heathen ravagers. Yet Gildas (B) is himself of Pictish descent, gives both his sons Pictish names, and is on cordial terms with Irish clerics.

(c) Gildas (A) is horrified by any breach of monastic celibacy (4). Yet Gildas (B) has two sons. This is of course susceptible of explanation in itself. It is only in connexion with other facts that it is worth noting.

(d) Gildas (A) is purely Roman in his sympathies. British dynasties of Celtic origin are treated scornfully (5). Gildas (B) sprang from such a family, and is a Celt from the outermost part of the Brythonic highland zone.

All this amounts to saying that Gildas (A) writes from the standpoint of a cultured and more or less anti-Celtic Romano-Briton of the fifth century, not yet forced to take cognizance of Irish and Pictish Christianity, nor of the Anglo-Saxon kingdoms arising in eastern Britain. For a pan-Celtic saint of the middle sixth century, such as Gildas (B) undoubtedly was, such attitudes would be anachronistic and out of character.

What is the explanation of this discrepancy? Perhaps we have a clue in the saint's name. There seems to be no connexion with Goidelic *Gilla*, which comes from oc. **geislo*-, and would demand the addition of another name. Instead, the name Gildas appears to be purely Latin, comparable to that of the 'tyrant' Gildo who opposed Honorius. The name might have been selected as a sort of periphrasis for that of the 'last Roman', Ambrosius *Aurelianus*, to whose memory Gildas shows such devotion (6). In any case, it has a very anomalous look amid the other children of Caw Prydyn—Peithien, Cywyllog, Huail, Gagoll, Meilig, etc.—Celtic to the nth degree. Its appearance there is most easily explainable as due to the fame of some Romano-Briton of that name. In other words, Gildas son of Caw, founder of Rhuys, was not the writer of the *De Excidio*, but his namesake. This represents a return to the earlier view which distinguished between Gildas 'Badonicus' the writer, and Gildas 'Albanus' the saint, but with a difference. The Rhuys and Glastonbury Lives both refer to Gildas son of Caw. Gildas (A), the 'historian', has no biographer. We are thrown back on what we can learn from

³ *De Excidio*, c. 19.

⁴ *ibid*, c. 32, 34.

⁵ *ibid*. c. 21, 26, 27.

⁶ c. 25.

his own writings. This has an important bearing on the chronological puzzle of chapter 26. Here, Gildas is usually supposed to say that he was born in the year of the siege of Mons Badonicus, which took place 43 years from some other event. The siege took place between 493 and 518, with the balance of probabilities in favour of the later date (7). He wrote not later than 548, after a decade of urging on the part of his monastic friends (8). Thus, Gildas was already a person of note in British monasticism before 538. This is hardly possible in the case of a person born in 518. But if Gildas son of Caw was born not much later than 510, the man for whom he was named is not likely to have been born later than 480—too early for even the earliest possible date of Mons Badonicus.

Perhaps the most plausible solution is that suggested by Seebohm (9), that what Gildas meant to say is that he was born in the year of Ambrosius' victory over the Saxons (c. 474 ?) and had reached the age of 43 when another victory, at Mons Badonicus, brought the long war to a close. In this case, the *De Excidio* would have been written, c. 540, by a man over 65 years of age, deeply out of sympathy with the younger, 'post-war', generation.

P. K. JOHNSTONE.

PRIMITIVE HOUSE-TYPES IN IBERIA

The purpose of this note is to put on record details of primitive circular houses still in use in western Spain and in Portugal, which have an interest both in themselves, as features of contemporary folk-life, and in their relationship to ancient house-plans known in Europe from prehistoric and Dark Ages sites.

On the open upland country in the extreme south of the province of Leon in Spain, near its junction with that of Estramadura, the shepherds and herdsmen use a distinctive type of circular hut for seasonal occupation, and in May 1947 I was able to visit several of these not far from Ciudad Rodrigo, south-west of Salamanca, and to make a plan and section of one fortunately unoccupied (FIG. 1). Circular in ground-plan, the houses were of the simplest conical construction, formed of poles of small diameter at an angle a little under 45 degrees, tied together at the top and butted into the ground in shallow oblique 'post-holes'. The floor was roughly paved with flat slabs, with a square central hearth slightly sunk below the surface and itself unpaved; there was one door, and a pole fixed horizontally about six feet above the floor carried a hook for an iron cooking-pot. There was no outlet for smoke except the door, and the poles were of course heavily sooted. There was a substantial thatch of heather and ling, and round the base over the thatching was a turf wall about four feet high.

Outside almost all the houses were small structures of corbelled stones, sometimes over a wooden framework, which served as hen-houses (they can be seen outside the house in PLATE I, nos. 1 and 2). Other outside features consisted of a beaten clay floor, and hurdles used as wind-screens on this 'forecourt' area.

These houses represent a very primitive type on which Oelman and Erixon (1) have commented, the latter pointing out that the sloping poles seem typologically to come before the upright wall capped with a conical roof, and quoting most interesting evidence for this in his analysis of the construction of the remarkable herdsman's houses of the Roman Campagna. The conical type is of course very widely distributed in

⁷ Collingwood and Myres *Roman Britain* . . . Appendix III, p. 460 ff. Hodgkin, *History of the Anglo-Saxons*, I, 123.

⁸ c. 1.

⁹ *The Tribal System in Wales*, 189, n. 3.

¹ *Folkliiv* (1937), 124-55.

SHEPHERDS' HOUSE NEAR CIUDAD RODRIGO, SPAIN

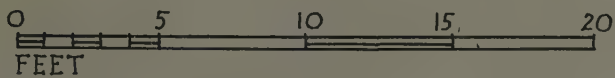
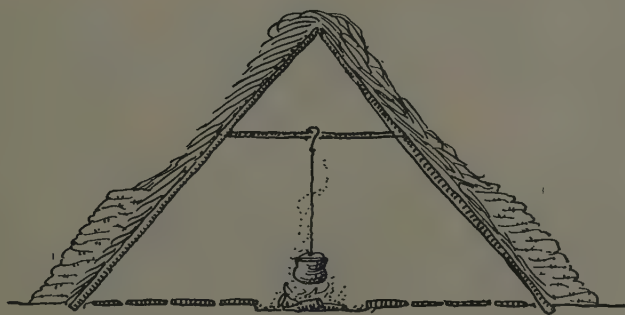
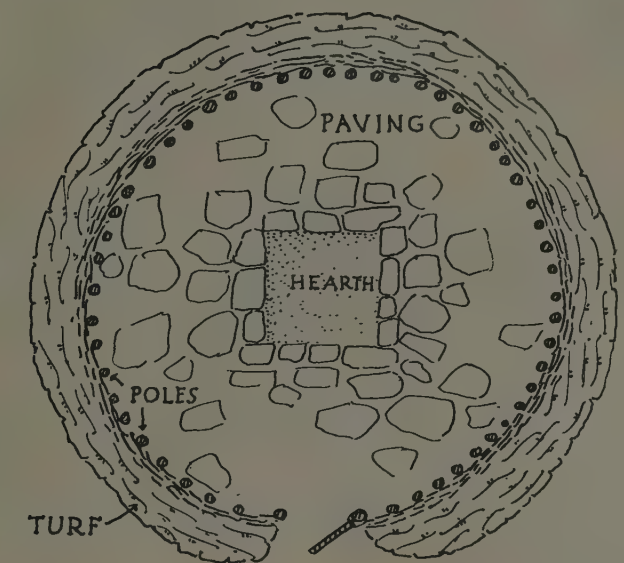


FIG. 1

modern European peasant cultures, the Lapp turf hut or *kāta* for instance having affinities, though here the internal construction on a sort of 'cruck' framework is more sophisticated (2). But the Spanish houses just described have various features of individual interest, not least in the turf walling round the base of the structure.

Westwards, across the frontier in Portugal, circular houses are still in use for storage or residence in the Beira region (PLATE II), but here with conical roofs set on circular stone walls which are the direct descendants of the 'hut-circles' of the local Portuguese *castros* or of the whole western seaboard of Britain throughout prehistory.

STUART PIGGOTT.

KPHTIKA XPONIKA

The new periodical, *Κρητικά Χρονικά* ('Cretan Chronicles') comes to fill the place of the old *Επετηρίς Κρητικών Σπονδῶν* which appears to have been killed by the war. *Κρητικά Χρονικά* is published in Herakleion, Crete (unlike its predecessor) and will appear in three numbers each year produced by the firm of Andreas Kalokairinos. The editorial committee consisting of His Grace Eumenios Phanourakis, Bishop of Lambi and Sphakia; Dr Nicholas Platon, and Messrs Menelaus Parlamas, Nicholas Stavrinidhis, and Vasilios Laourdhas have defined their aims in Vol. I, part I, as the publication of the following class of materials:—

- (i) Unpublished or incompletely published sources of Cretan History such as public and private documents, travellers' descriptions, inscriptions, coins, seals and folk-lore material.
- (ii) Unpublished or incompletely published monuments characteristic of the Cretan civilization.
- (iii) Articles derived from unpublished or incompletely published sources.
- (iv) Critical accounts of historical research in Crete.
- (v) Bibliographical material.
- (vi) News of scientific research relevant to the scope of the Journal. Nothing relating to events that took place after 1911 will be published in this Journal.

The articles in the first number of Vol. I give a fair idea of the material to be handled. For prehistorians there is only a review by Professor Marinatos, but classical scholars are catered for by an article on 'The Cretan Sea' by Mr Ioannis Kalitsounakis and by another from Dr Platon, who exposes the non-existence of the so-called cities Matium and Tisyroi. Byzantologists will find of interest to them the article on Cretan Painting and Italian Engraving by Mr Chatzidhakis of the Benaki Museum and the well-documented literary and biographical sketch of the activities of the Tzane Bounialis family by N. V. Tomadhakis. For Venetian students there is a letter of Morosini when Governor of Candia to Louis XIV in 1669 described by S. Spanakis, and an excellent biographical article on 'Questions of the Cretan Theatre' by M. I. Manousakis.

The period of Turkish domination in Crete, is represented by Mr N. Stavrinidis' article on 'Unpublished Documents of the Turkish Rule in Crete', and by some hitherto unpublished ecclesiastical archives discussed by Bishop Eumenios. The 19th century is represented by M. Parlamas' publication of the diary of a certain Constantine Kozyris of Kritsa interesting not only for the side-light it sheds on the details of Mehemet Ali's rule in Crete but also for its dialect, East Cretan with a strong mixture of Turkish and Arabic words (mostly official terms).

² *Ibid*, 201 and pl. XL.

NOTES AND NEWS

The articles and reviews are all written in Greek but I understand that the editors will publish articles in other European languages if they are relevant to Cretan studies.

No. 2 of Vol. 1 (dated May to August 1947) opens with an article by E. Kriaras on the chronology and authorship of the Cretan play called 'The Sacrifice of Abraham'. Dr Platon contributes a topographical article with two unrelated parts, (a) is a discussion of how Candia may be considered to have been a walled city in Byzantine times, (b) the origin of the name Chania which the author ingeniously traces back to a Minoan Vulcania. Bishop Eumenios publishes some interesting letters from the Synod relating to (and mostly addressed to) Maximos Metropolitan of Crete towards the end of the 18th century. Dr Laourdhas uses the Turkish archives to correct some inaccuracies in the 'Song of Dhaskaloyannis' which is the chief source for most of us of information on the Sphakia rebellion of 1770. M. I. Manousakis writes on the sources used by Nektarios Patriarch of Jerusalem in his 'Hierokosmic History'. M. Parlamas continues his entertaining extracts from Kozyris's diary with some learned footnotes. Professor Marinatos criticizes Professor Hrozný's attempts in his *Kretas und Vorgriechenland's* *Inschriften* to read the Minoan Script as involving a number of large assumptions some almost certainly untrue, such as the supposed conquest of Crete by Sargon of Akkad and the equation of Candia=Hatahūn, and others highly problematical; Marinatos indicates possibilities of a modest approach to the solution of the problem. Miss Agnes Xenaki publishes in a careful and objective manner the tablets or fragments of Minoan tablets in the collection of Dr Giamalakīs with photographs of each tablet.

Mr Stavrinidhis has a scholarly article on Andrea Barozzi who betrayed Candia to the Turks and S. P. Spanakis publishes two appeals by some of the people of Sphakia to their Venetian 'provveditore'.

The reviews consist of one by M. Chatzidhakis on Prevalakis' 'Theotokopoulos' and by Dr Platon on two recent pamphlets on the Minoan Script by C. D. Ktistopoulos. Finally there are necrologies of Sir Arthur Evans and Captain J. D. S. Pendlebury by R. W. Hutchinson.

It will be remarked that students of all periods are catered for, but that the new journal is likely to appeal especially to medievalists, and the reviewer personally, though not a medievalist himself, looks forward most keenly to the gradual publication of the historical material in the Turkish archives of Herakleion by Mr Stavrinidhis and other scholars.

R. W. HUTCHINSON.

MOUNT BADON AGAIN

In *ANTIQUITY* for September 1946, page 160, Mr P. K. Johnstone considers the site of the battle of Mount Badon in relation to the life of Saint Finnian of Clonard, as told by his Irish biographer. His conclusion is: 'If this is correct (e.g. that Finnian was present at the siege of the Badonic Mount), we should search the region around the Lower Severn (the eastern side of the river seems much the more likely, but the western shore should not be arbitrarily ignored) for a lofty hill with some sort of entrenchment on a plateau, with a steep escarpment above and below it. These features are so distinctive that they should be recognisable, and so rare that only a very few sites are likely to be able to contend for the honour'. The present writer would like to submit Brent Knoll's claim to be the site required.

Brent Knoll is in north Somerset, six miles south of Weston-super-Mare and three north of Highbridge. This hill, at its summit, is only three miles from the Severn and two at its western base. In Roman times, with a higher water level, it would have

been still nearer. It therefore satisfies the requirement that it should be on the east side of the Lower Severn. It is a hill of peculiar formation. Once an island in the Triassic sea, it stands out from the marshes surrounding it, and is so conspicuous that it has been a seamark for centuries, and until the Berrow lighthouse took on duty, the spire of East Brent church was whitewashed to be a help to mariners. The hill is roughly oval, and has its long axis running northwest, southeast. Its diameter is about a mile. Quite two-thirds of the hill surface is taken up by a plateau of, roughly, one hundred acres. This is about 150 feet above sea level and the rise to it is extremely steep. The summit again rises very steeply from the plateau, and reaches a height of 547 feet. On the southeast side, away from the sea, the plateau thins out and the citadel rises almost straight from the plain. The summit encloses several acres, and has the ordinary fortifications of a hill fort of a fairly simple kind. The defences at the entrance are splayed, and further defended by outer works. The sides of the citadel are scarped, specially on the seaward side, apparently to form cultivation terraces. Mining has obliterated some of the banks on the summit. Similarly the seaward slope of the plateau is scarped roughly, though not in such regular terraces as the citadel. It is to day difficult to trace any earthwork on the plateau itself. It is cultivated and in places wooded; but writing in the Somerset Archaeological Society's Proceedings in 1860, the Rev. F. Warre considered that 'the whole of the elevated plain had been enclosed in a low agger, and probably a palisade, and must have resembled a large park'. Within this enclosure he noted a fine spring, and considered it to be a Belgic cattle station, specially used as a refuge from storms and high tides. Thus we have the required fortified plateau, and the steep slope above and below it. The whole mass resembles a huge motte and bailey entrenchment, for instance Old Sarum.

When the fortress was occupied by the Celts its connexion with South Wales must have been close. From the mouth of the river Axe to Brent is four miles, and it is only ten from the river to South Wales, with the islands of Flatholm and Steepholm to break the journey. The promontory of Brean Down commands the mouth of the Axe, and is fortified across its landward narrow neck against foes coming from the east, e.g. the land, not from the sea. The mouth of the river Brue, furthermore, is only two and a half miles to the south, and the river reaches the sea almost in the Parrett estuary. Access by sea was ideal. The farm on the east side of the hill is called Battleborough.

In the year 500 or thereabouts, the surviving Roman roads and tracks must have made it comparatively easy for an invading army from north or east to reach Brent, not to mention the river Brue itself, flowing from the hills at Penselwood, on the borders of Wiltshire, right across Somerset. Locking, presumably an early Saxon settlement, is only five miles to the north. Thus the site seems politically to fill the bill as a place of meeting between the natives and the invaders between the fifth and sixth centuries A.D.

According to Rutter, writing in 1829, Roman coins and pottery have been found in the camp, and heads of weapons, fibulae of brass and other remains by digging at its base. These, he suggests, may have been from the barrows that once abounded on the flats. But he further states that 'A few years ago an ancient cuirass was dug up at East Brent from a depth of five or six feet. It was in good preservation and of an unusual thickness and weight and supposed by some antiquaries to have been of Roman workmanship'. It seems to be correct that in this district the peat is about six feet below the alluvium and that Roman objects have been found on its surface, but the two Roman cuirasses found in Somerset were formed of small scales. As the object in question has vanished there is no more to be said about it. Roman and Romano-British pottery was dug up within the camp recently. Rutter also remarks that the Knoll was the scene of

warfare between the Belgae and British in 300 B.C., between the Romans and Belgae in A.D. 50, between the Mercians and West Saxons in A.D. 500 and the Danes and Saxons in A.D. 880. The site is associated with King Alfred. Undoubtedly it has seen warfare, if not exactly according to this record. More important is the statement in the Victoria County History of Somerset that 'There is very little reason to doubt that the tradition that Brent Knoll was given to the monks of Glastonbury by Arthur, the victorious successor of Ambrosius, and the historic personage on whom were afterwards fathered the exploits of his legendary namesake'. The knoll was at that time called Mons Ranarum, the mount of frogs.

Armitage Robinson in *Two Glastonbury Legends* mentions a version of the Arthurian legend centred at Glastonbury in which Arthur took one Ider to fight against three giants in the Mount of Frogs, now called Brent Knoll. It was given to Glastonbury by Arthur, and probably during the time of one of the first three abbots. Actually it was subsequently lost and restored by Ine, to remain the property of Glastonbury until the Dissolution.

It seems reasonable that if the British dislodged the Saxons from Brent the king should give the land to the great Abbey as a thanksgiving.

These are the facts, but whether Brent Knoll was Mount Badon or not is for others to decide.

MRS D. P. DOBSON.

DOMANGART AND ARTHUR

Domangart, son of Fergus Mor Mac Erc, ruled Dal Riada for only a few years at the beginning of the sixth century—probably from 506 to 511 (1). An obscure personage, he is important to history chiefly as the grandfather of the great Scot King, Aedan Mac Gabran, who at the beginning of the seventh century barely fell short of accomplishing that unification of Caledonia eventually attained by his descendant, Kenneth Mac Alpin, more than two centuries afterward. Aedan named one of his sons for Domangart—he was one of the four sons of Aedan slain at the battle of Circind in 596 (2). One of the others was that 'Artuir' who has been so often noted as proof of Arthur's fame in the Celtic north within a century of his lifetime. In the present connexion it is the association of his name with that of Domangart which is to be remembered.

In the (?) eleventh-century Welsh tale of 'Kilhwch and Olwen' (3) a vast and heterogeneous list of Arthur's associates is given. The name of Dyfnwal Moel (mud), a historical prince of the line of Coel, is followed by that of 'Dunard, King of the North'. This looks like a phonetic rendering of Domangart. Further on in the same story, we have an episode which must be based on a Celtic myth of remote antiquity—the perpetually renewed May Day battle of Gwythyr son of Greidawl (4) and Gwyn son of Nudd (5), for the hand of Creiddylad (Shakespeare's Cordelia). But among the allies of Gwythyr, who are released from captivity by Arthur, there appears one 'Dyfnarth

¹ 'Annals of Tigernach', *Revue Celtique*, vol. 17, 135.

² op. cit., 138.

³ Guest, *Mabinogion* (Everyman), p. 103.

⁴ This worthy must in some degree represent the Brigantian deity, Vitrir, mentioned by Collingwood and Myres, *Roman Britain*, p. 268. However, the spelling would seem to have been influenced by Gwythyr (for Latin *Victor*). A more purely celtic version would be *Guydre*, which appears in the *Mabinogion* as the name of a son of Arthur. If historical, this would suggest that while in 'the North' Arthur had acquired a Brigantian wife.

⁵ The Nodens of Lydney. Collingwood and Myres, 264-6.

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son of Gwrwt'—the rule-right Brythonic equivalent of Domangart Mac Fergus (6). The more precise spelling is evidence that this reference derives ultimately from a different source from that which furnished 'Dunard'.

It would seem, then, that while Domangart's descendants in Scotland remembered Arthur favourably, the traditions of Arthur surviving in Wales included some half-forgotten connexion with a 'King of the North' whose name is identical with that of Domangart. Nor is this quite all. The *Annales Cambriae* reports, under a date of c. 872, the drowning of a 'Dungarth, king of Cornwall (7)'. This Cornish *subregulus* of king Alfred most probably derived his name from a now-lost Arthurian tale then current in Cornwall.

These straws of evidence tend to suggest that there was, in fact, some sort of alliance between the Dalriad king and the British *dux*. Due to the shortness of Domangart's reign, we are given a valuable clue as to the date of Arthur's campaigns in North Britain.

P. K. JOHNSTONE.

We wish to call attention to an addendum concerning Mr John Bradford's article in ANTIQUITY, no. 84. It is the explanatory key which unfortunately was not inserted with Fig. 1 (page 203), as follows:

- Minor roads and stone boundary banks, maintaining alignment of Roman *limites*.
- Field boundaries, ditches, etc. on probable alignment of Roman *limites*.
- Straight boundaries *not* part of original centuriation.
- Other existing roads.
- N.B. Spot-heights in metres.

⁶ *Mabinogion*, pp. 127-8.

⁷ *Y Cymmrodor*, ix, 141 ff.

Reviews

VIKING ANTIQUITIES IN GREAT BRITAIN AND IRELAND. 5 Parts. Ed. HAAKON SHETELIG. Oslo (*H. Aschehoug & Co.*), 1940. Part I, pp. 164; Part II, pp. 206, figs. 96; Part III, pp. 137, figs. 90; Part IV, pp. 134, figs. 86; Part V, pp. 214, figs. 169. Price: each part 12 kroner (Norwegian); bound, 15 kroner.

There is one type of publication in which British archaeology, even at its most energetic, has never excelled, and that is the *Corpus*—the full-dress catalogue of every known particle within some broad but defined category. The reasons lie partly in history, and partly one suspects in temperament; but the fact remains. It would not have involved an undue effort on our part to compile a *Corpus* of Viking Antiquities for England, for Scotland, or for Ireland. We did not do it, and now our friends in Norway have done it for us—and that, not just for one of these countries, but for all simultaneously, and more besides. For foreign scholars that really is an undertaking, and as if that were not enough they have published it not in their language but in ours.

The task has been sponsored by the Scientific Research Fund of 1919 since the year of its inception. The work was planned broadly, and has proceeded, shall we say, a little ponderously. The project began to form in 1919; the substantive visits for study were made in 1925–27; the preface signed in 1939; printing completed in 1940; and then the Germans came. After liberation the promoters, moving now with an alacrity that compels admiration, bound up their loose sheets, and finally achieved publication in the autumn of 1946. They deserve our congratulations.

Five quarto volumes have now appeared, and a sixth is to follow. By its terms of reference the work claims (or should claim) to be exhaustive. It is a *magnum opus*, and by that standard it must be judged. Nevertheless the task is a severe one. In this field a scattered and inaccessible literature combines with an astonishing degree of dispersal among the museum material. For England at least this mass of evidence has never even been drawn together, much less sifted; and Ireland is little better off. In Scotland alone, thanks to the brilliant pioneer studies of Joseph Anderson, and careful routine publication of finds since his day, does there exist a firm base for further operations. These difficulties have in large part been overcome; such a result could only have been possible to a fine team of scholars under able leadership.

The general editor is Dr Haakon Shetelig, and in Part I he himself contributes an *Introduction to the Viking History of Western Europe*. Here we are on ground already in large part traversed for English readers by Kendrick so recently as 1930. Here again, woven indeed by a master, we have a completed picture formed from the familiar threads: Norse Sagas, Irish Annals, Anglo-Saxon Chronicles, language and custom, national names, personal names, place names. And in the end, given the undisputed outline, is it unfair to suggest that in detail the story, told for the second time, makes no more sense than before? If so, that is no fault of the teller, but of the very nature of the tale. There are, moreover, compensations. The opening account of relations between the Scandinavian North and Western Europe before the Viking period, done *con amore*, is new and was worth doing; while the demonstration of the original Norse substratum in the modern political organization of the Isle of Man is quite fascinating. There are, too, divergences from Kendrick's views, notably over the status of Brian Boru; and the

dissolution, as an historical figure, of Ragnar Lodbrok. One or two details call for passing comment. On p. 128 we are told 'we do not know the exact date of Rollo's death', but the following paragraph informs us it was in 931; on p. 96 '844' is surely a misprint for 894; and it would have been an improvement to spell the names of Lisbon and Cadiz in the English fashion.

With Part II, *Scotland*, by Sigurd Grieg, we abandon history for archaeology with the first section of the register of Viking antiquities. But what is a Viking antiquity? The various prefaces make it clear that the original objective of the study was a complete composite catalogue of all Viking remains preserved in the museums of the British Isles. Nevertheless the carved stones of the Vikings, whether preserved in museums or not, have been excluded, and so *a fortiori* have inscriptions (runes). The Scientific Research Fund of 1919 has studied these things, and field monuments also (Dr Brøgger in Shetland and Orkney, and Dr Shetelig himself in the Isle of Man). Nevertheless a clear statement of the terms of reference would have helped. And there are other ambiguities; while the authors of the volumes on Scotland and Ireland have very properly extended their registration to include notices of finds no longer preserved, the author of the English volume has not. Again at what date do the lists close? 1940? Surely not. Much material published in this country since 1925-27 is included; but was the committee dependent on the goodwill and energy of students over here to keep their registers up-to-date, or were other steps taken? On this point also information would have been welcome. These are not matters of detail; they present themselves immediately and are fundamental to an undertaking of the kind.

The register for Scotland covers ground already traversed in part, and with many illustrations, by Brøgger (but in Norwegian), so that the appearance of much of the material, and of all the more striking part of it, is not altogether new. To one familiar only in a general way with the area the register appears, however, remarkably complete, and we are grateful for the additional illustrations. The convenience of possessing in English this full review is unquestionable. By way of good measure there is added a section on Celtic antiquities from Scotland. This covers metal-work only, and admittedly much of the contents can have had no connexion with the Vikings. Its relevance lies rather in the material afforded for comparison with those finds of Celtic metal-work in Norway which can only be due to Viking raids in the West. Whatever the reason, the section presents an admirable survey, illustrated by some of the best photographs in the volume, and its inclusion is most welcome.

With Part III, *Ireland*, by Johs. Bøe, we feel the full impact of this concentration of scattered material. Even so, nearly half the volume is taken up by the Islandbridge Cemetery. The account here given is, naturally, far in advance of that by Coffey and Armstrong, and has the advantage of including further graves found in 1933-34, three of which were properly excavated. In the rest of the volume the tragedy is that of so many good things so little is known. In the section covering gold and silver objects, in particular, entry after entry has not even a locality. All the more pity, therefore, that the two fine silver armlets (as part IV, fig. 8) found in the Shannon at Athlone, and preserved in the Alnwick Castle Museum, are not included. The catalogue seems full and great trouble has been taken over the entries in the Dublin Museum Registers. One wonders, however, whether there is absolutely nothing of this period in the Cork Museum, or in private ownership in the country. The volume presents, for the first time, a firm starting-point for all further research on the period in Ireland.

Part IV *England*, by Anathon Bjørn, and *Western Europe* by Haakon Shetelig, is a somewhat mixed bag. The English section, like the Irish, is the first essay of its kind,

and if for no other reason is welcome. The difficulties were great, but we cannot feel that they have been altogether satisfactorily overcome. Though no single account of the Viking antiquities of England has ever before been written, yet there is one prime key to much of the available material, and that is to be found in the relevant sections of the Victoria County History. All but a few of these were written by the late Reginald Smith, and are a monument to his amazing knowledge of local museums and periodical literature. Any student who neglects this essential source does so at his peril. Yet that is what has happened here. The V.C.H. is referred to twice in the whole volume, and a glance at only a few counties will show how much has been missed. Taking burials alone—how few they are, and how we should cherish their records!—what are we to think of a register which omits the following: Wensley, Saffron Walden, Beacon Hill (Aspatria), and worst of all the six to eight well-furnished graves found under the floor of Kildale Church? The Ormside bowl is not Viking, but how does anyone suppose it came to be buried in Ormside Churchyard if not as Viking loot and in a Viking grave? If the fact that the Rampside sword and the Repton axe were found in churchyards is good evidence, as well it may be, of Viking burials, then why not include in the list of graves the sword from Farndon, and the Brigham pin (but this is omitted altogether, though recently published in a paper elsewhere quoted). The Leigh-in-Southend burials may be debatable, but they are not even mentioned. Here, immediately to hand, are a further eight sites of burials to add to the sixteen listed for all England (excluding Man), an increase of 50 per cent. It will not do.

And there are inconsistencies of treatment. If the Basingstoke 'hanging-bowl' grave is really Viking (and that turns on the 'iron bowl with handle' of which no illustration is available), then there is a case for including the Keythorpe Hall and Hawnby graves (as Shetelig has done in *Vikingeminner i Vest-Europa*, pp. 79–80), and, it would seem, the Capheaton grave as well. The rejection of the Keythorpe and Hawnby graves may be for the best of reasons, but is not discussed. The subject has an obvious importance in this country for the study of our well known series of hanging-bowls.

It cannot be mere caution that excludes these graves, for in the list that is given there are cases which are extremely doubtful, and one which can only be regarded as impossible. That is the find of mixed antiquities from the Cherwell at Magdalen Bridge. One just does not dredge up the contents of graves from the bottoms of streams. The find in Reading ballast-pit is, in the reviewer's opinion, better explained as evidence of a skirmish than of a grave; while it is debatable whether the fragments of a boat from Pembroke are even Viking, much less evidence of a grave, though the find is certainly worth discussing. The Workington sword, as described, could hardly be said to amount to evidence of a burial 'because it was found in a gravel bank'; in fact it is good evidence, but that is because it was ceremonially mutilated (bent) before deposition.

The oval brooch in Edinburgh Museum listed (following the Edinburgh Catalogue) as 'from Northallerton' is actually 'from near Bedale'; the pair to it is preserved, at Alnwick Castle; and further information about the find is available.

Among the gold and silver the Scotby hoard (c. A.D. 940—about 100 coins and 10 ingots), and the Brayton brooch are omitted; and the Casterton brooch is not in private possession, but has been in the Carlisle Museum since 1910. Of isolated finds we mention here only the omission of the fine iron spearhead with silver inlay on the socket found on the Sussex Downs at Coombs, near Steyning. But what can be said for a register whose sole reference to the Hurbuck hoard, the largest collection of Viking period ironwork ever found in this country, is to list under the heading of Single Antiquities 'A small axe of Viking type, well preserved, found in a stream'—with no mention of its

associations? Even if our Norwegian friends do not agree that this well-known and important collection of farmer's tools and weapons belonged to a viking—as surely they did—it was worth a line or two to give the reasons.

We are grateful for the publication of many new weapons from East Anglia, and of the town material from York; and for the illustrations throughout, a number of them of objects which have not been figured before.

We turn, however, with greater confidence to Dr Shetelig's account of antiquities from the Continent of Western Europe. In a modest foreword the author states the limitation in scope of his contribution, so that we know where we are from the start. Completeness is not aimed at here, and we are free to enjoy an exciting collection of reproductions of old friends in the continental museums. We particularly welcome plates of the fine Termonde spearhead in the Porte de Hal, and that strange sword from the Yssel in Leiden Museum. The rarity of graves is extraordinary, and has surprised at least one reader, but the account of the ship-burial of L'Ile de Groix from a modern standpoint, and by an expert, is invaluable. Indeed the convenience of this collection of material and of literature even more scattered than that of the British Isles cannot be overestimated; and we congratulate the Committee and Editor on their inclusion of this supplement.

Part v, *British Antiquities of the Viking Period found in Norway*, by Jan Petersen, forms a valuable appendix to the preceding three parts. It is a very comprehensive volume indeed, and in fact includes all imports into Norway during the period from the west and southwest whatever their country of origin. At once we are aware of the difference between scholars handling a foreign material, and one working on his own soil. Furthermore this is not altogether a pioneer work, but a finished product based on previous studies. The whole volume gives confidence. The fully illustrated and documented section on metal-work of Irish style will be essential to all future studies in this field. The next section gives us, for the first time in this country, that complete and up-to-date review of the bronze bowls (including hanging-bowls), and bronze-covered buckets, found in Norway, which is so much needed. We ourselves specially welcome the section on weapons, in which the leading Norwegian authority on this subject indicates once and for all which of the vast range of weapons found in his country he considers to be imported. The swords in particular are well illustrated, and this residuum of exotics is now readily available for further analysis.

The sets of scales are surprisingly numerous, and some are in a remarkable state of preservation. There is great similarity between many of these, which must have been produced at a single centre; it would be a matter for congratulation if one day that centre could be located. Finally the very fully illustrated section on Anglo-Saxon and Frankish ornaments is invaluable, and should stimulate research in the countries of origin, particularly, it is to be hoped, on the Continent. The whole volume is a wonderful review of the material, and to have it all drawn together in this manner a supreme advantage.

The work is well produced. It is clearly set out, and printed in bold type on good paper. The long series of reproductions of photographs from very mixed sources maintain a creditable standard; they are hardly ever less than adequate, and often excellent. The figures are not, however, always (or even usually) opposite the relevant text, and no means has been devised of enabling quick reference from figures to letter-press. In practice this results in an aggravating waste of time. The scale of reproduction is not shown, but actual measurements are given in many cases in the text; this is not, however, always done. The lists of abbreviations do not always cover all those used; in dealing with a foreign literature this is a real inconvenience.

There is still wanting the crucial link between the history of Part I and the antiquities of Parts II-V, the synthesis that will illuminate the former and give meaning to the latter. This, no doubt, is to be looked for in Part VI, *The Civilisation of the Viking Settlers in relation to their old and new Countries*, by Dr Shetelig. This is indeed something to look forward to, and if we may judge from his preliminary essay at a more popular level in *Vikingeminner i Vest-Europa* (1933) we shall not be disappointed. It is good news that the manuscript is completed, and should by now have gone to press.

J. D. COWEN.

THE ORIGINS OF NORTHUMBRIA. By PETER HUNTER BLAIR. Published for the Society of Antiquaries of Newcastle upon Tyne by the Northumberland Press Ltd., 1947. 51 pages.

This interesting booklet reconstructs the history of Britain at and after the end of the Roman occupation somewhat as follows. After the disastrous Pictish raid of 367 there was 'a phase of vigorous warfare . . . as a result of which the [Roman] frontier was pushed northwards again to the line on which it had rested in the second century, that is to say, to the Antonine Wall. The method of holding this reconquered territory was not to man a continuous frontier, as Lollius Urbicus had done, but to secure its extremities by the creation of two independent states'. One might comment here that this 'defence in depth' following the holding of a line is paralleled in military history by the tactics of the two great modern wars, the change being forced by the penetrative power and disruption caused by mobile columns of Picts and tanks respectively. The two buffer kingdoms were those of 'Strathclyde and Manau, which were the first under Roman control, but which later lost their Roman identity, and came to be controlled by men who could indeed claim to be of Romano-British descent, but who were in fact native British kings'. They were imperial creations that 'went native'. The state of Manau, foolishly weakened by the removal of Cuneda and his forces to North Wales, ceased to be an obstacle, and the way was open again to the Picts, against whom the British employed Saxon mercenaries quartered in York (the old and obvious military centre) and in the East Riding. 'The accidental survival of a detailed tradition about Hengist's invasion of Kent has been allowed to distort the general picture and to obscure the importance of this early Saxon settlement in the north'.

There seems to be good evidence in support of this reconstruction, which certainly makes good sense as a whole. It is in agreement with that strange but undoubted Romanisation of the Lowlands south of the Forth-Clyde line, testified by several tombstones inscribed in the Roman alphabet and language. These are usually, and correctly, attributed to the mission of Ninian, but I regard that mission itself as merely another move in the same game. (If we could be sure that St. Patrick's birthplace was near Dumbarton—and Old Kilpatrick is one of the candidates for that honour—we could adduce the evidence of his father's office in support of the Roman character of the kingdom of Strathclyde). Ninian's rôle was surely to secure the adherence of the buffer states to the civilization represented by Rome, and thereby to strengthen by cultural ties their resistance to the powers of darkness and disruption. Precisely similar tactics are being employed in Europe today on both sides of the Iron Curtain.

Mr Hunter Blair gives a convincing explanation of the connotation of 'mare Fresicum', suggesting that it meant the North Sea. This seems better than the Firth of Forth, and much better than my own rather strained attempt to identify it with the Solway, which had now better be forgotten. When compiling the Dark Ages map, I devoted a good deal of time to the exploration of a neglected by-way of topography,

the early names of the seas round Britain. I found that, though there were some that had more than one name (according to the land of the namers), the nomenclature was exact and persistent. The North Sea was most often called Mare Orientale; but it was certainly also called the Frisian sea. Unfortunately my notes have been destroyed and I cannot quote references; but I think that the term was used in much later (medieval?) times. The use of the word 'ultra' (mare Fresicum) is explained as from the (European) point of view of Hengist and his Saxons. This seems perfectly natural and a legitimate interpretation. One would, for instance, hardly find any difficulty in a statement that the Scots in the Middle Ages raided many places beyond the border, or that William and his Normans settled in many districts beyond the English Channel, even if both statements were made in England.

One of the 'Ninian' inscriptions is the Catstone, and I would mention that the reading VICTR (not VICTI) is quite certain and has now been accepted by Prof. Macalister. 'Victus', a ghost-name, should be abandoned. Most (and probably all) of these stones merely marked the more important graves in cemeteries; and the records of the discovery in the Lothians of many undated graves without grave-goods suggests that there were many other such cemeteries where inscribed memorial-stones—or, to be precise, stones with imperishable carved inscriptions—have not survived.

Rhydderch may well have had his 'castle' at Carruthers not far from Burnswark where there is a rectangular (but not Roman) earthwork (see Report of the R. Commission, Dumfriesshire). It is a site that cries aloud for excavation; for its rectangularity is just what one would expect in a region where the Roman 'way of life' was struggling against the barbarian one. O.G.S.C.

STYLE IN SCULPTURE. *Edited by LEIGH ASHTON. Cumberledge and Oxford, 1947.*
4s 6d.

This admirable book, edited by the Director of the Victoria and Albert Museum would have been published 'in normal times' by the Museum itself; but 'the great difficulties put in the way of our publications have forced the Museum to go outside to achieve this end'. These are strong words, obviously chosen with deliberate care. Who is putting difficulties in the way of publishing books which Mr Cumberledge can produce and sell, presumably at a profit, for the very reasonable sum of 4s 6d?

The text is short, but is art criticism at its best. The authors describe each phase against the social background which influenced it. There are many illuminating remarks. 'Northern medieval man regarded himself as part of a unit—tribe, race, town, guild or family—and his thought and actions were regulated by these ties'. How true this is! Every student of medieval history finds evidence of this overriding sense of belonging to a community. To find its equivalent today one must go beyond the pale of our civilization.

Describing the Easby cross the author of this part contrasts the designs on the two faces, the one (with human busts) 'inherited from Roman sculpture, and on the back (Plate 2) the stylized beasts and interlaced ornament typical of the Northern Schools'. True, but the design on the back belongs to a style which was imported from the Eastern Mediterranean (see Kitzinger in *ANTIQUITY* x, 1936, 61-71). What is this 'mystic, ornamental style of the North'? We mistrust all that is mystic, and cannot see the vine-scroll and similar designs in this light. But this is the only point of criticism we can find in what seems to us to be the best and clearest short account of European sculpture we have come across.

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Plate 38 represents something which looks like a half-melted bottle, and belongs, as the author aptly says, to 'a style in keeping with the ideas and forces operating in the world today'. All the illustrations are of objects in the Museum. O.G.S.C.

FRANCIS DRAKE AND THE CALIFORNIA INDIANS, 1579. By ROBERT F. HEIZER. *University of California Press*, 1947.

Drake is to Californians what Pytheas is to us; he 'discovered' them. How much we should like to know where Pytheas landed, if he did land, on our coasts! Such problems are as fascinating as a cross-word puzzle, and less futile. The author's approach is anthropological; he analyses the chief accounts of Drake's Voyage, with the object of discovering what were the tribes who came down to the shore to see him. He rejects the Trinidad Bay theory and concludes that 'the ethnographic evidence indicates strongly, indeed almost conclusively, that Drake landed in territory occupied by Coast Miwok Indians . . . There are two bays in Coast Miwok territory to which Drake might have brought his ship. These are Drake's Bay and Bodega Bay'. He decides in favour of Drake's Bay for two reasons, the discovery there of the inscribed brass plate and the existence of white cliffs accounting for the name Albion given to the landfall for this reason by Drake. We are a little uneasy about the plate.

The book is illustrated by two air-photographs. Fletcher's narrative states that the crew 'entrenched [themselves] with walls of stone'. The fort may have been of a slight character, but it should still be there, if (as the air-photographs suggest) the country is still for the most part open and uncultivated. Surely intensive field-work combined with air-reconnaissance and air-photography should reveal it without much difficulty? We know that it must have been on the coast and at the bottom of a hill. The discovery in America of any fort of the 16th century would be a famous one, and the discovery of this particular fort would be of outstanding historical interest. May we hope that Dr Heizer will enlist the aid of the U.S. Air Force and make this discovery himself? O.G.S.C.

A DESCRIPTION OF ORDNANCE SURVEY MEDIUM SCALE MAPS.

Published by the Director General at the Ordnance Survey Office, Chessington, Surrey, 1947. Price 1s 6d.

The field archaeologist needs no introduction to the Ordnance Survey Maps. Yet it is unlikely that he has sufficient cartographical knowledge either to make the best possible use of them or to use them with the least possible trouble to himself. Is he, for example, quite sure of the distinction between large, medium and small scale maps? Of the difference between a map and a plan? Of the great advantages secured by the substitution of the Transverse Mercator for Cassini's Projection formerly used on our National Maps? Is he aware of the available range of scales and styles of o.s. maps from which he can select the most suitable for field work, for museum use and for the illustration of memoirs respectively? Has he the Index Diagrams which enable him in a few moments to make out the order for the maps he wants? Above all, has he mastered the use of the National Grid, by means of which he can pin-point any 'find' on the map and describe its position by means of a simple system of co-ordinates which identifies the location once and for all? All this knowledge and much more he can have for the expenditure of eighteen pence to which he must add the careful perusal and retention on his bookshelf of a very beautifully produced pamphlet. It contains only twenty-one pages of text and twelve plates, so that it is easily mastered.

Suppose, however, that he is already a cartographic expert, that he knows at a glance, for example, the part of Great Britain in which to find point P, having given that its eastings to the nearest metre are 548,932 m. and its northings 177,061 m., he will still find the pamphlet indispensable. For it gives him full details of the new 2½ inch map which he will probably decide to take out with him in the place of the small scale one inch to the mile. This and the six-inch map which is also described as of medium scale are the two most likely to be used by the archaeologist unless he is engaged upon urban excavation.

The pamphlet is not without its blemishes, although these are slight and few, nor do they detract from its informative character. Why, for example, when the conventional signs are said to be given 'in' plate II is the pre-Davidson Committee (*sic*) six-inch map given 'at' plate III. Again, we have been accustomed to refer to a survey as made 'on' such and such a scale; here again 'at' such and such a scale is employed. Perhaps it was as well to insist that 'the term "Provisional" must not be read to imply any denigration of the quality of map production' but the warning could have been more simply expressed.

However, the Director-General disarms us by asking all users of the sheets for constructive criticism of the provisional issues on both the medium scales, as he is anxious that the final definitive issues may be as perfect as possible. This request refers more especially to the 2½ inch map in regard to which final details are not yet decided. Archaeologists may have suggestions to make as to the way antiquities are classified and marked on the maps. Most users are aware that the programme for rapid revision of the basic surveys was twice completely disrupted because of war, with the result that, for example, the six-inch map often showed open fields in place of actual urban sprawl. From the account of the measures taken for re-survey and revision which are outlined here the situation now appears more hopeful and the Treasury more alive to the necessities of the case.

E.G.R.T.

REPORT ON THE EXCAVATIONS AT HYRAX HILL, NAKURU, KENYA COLONY, 1937-38. By MARY LEAKEY. Reprinted from the *Transactions of the Royal Society of South Africa*, vol. XXX, part IV. pp. 271-409. Plates IX-XXIII, 3 plans and 35 figs. Cape Town.

The completion and publication of this report under war time conditions reflects considerable credit on the author, the Royal Society of South Africa and the Government of Kenya Colony which contributed generously to the cost of the publication.

Hyrax Hill is on the right of the Nairobi-Nakuru motor road, overlooking the modern lake, at the approach to Nakuru town. In this excavation Mrs Leakey had only African assistance, although this included the highly trained Africans of the Coryndon Museum; and while it was no mean undertaking, this report is witness that it was brought to a successful conclusion.

The most important feature excavated was a neolithic occupation site in which nineteen burials were found that must have been contemporary with the occupation. The most striking features of the culture disclosed were shallow stone platters, so called to distinguish them from the deeper bowls of the other branches of the East African Stone Bowl Culture; the pottery included four ovoid beakers with primitive rims decorated by a horizontal band of combed or impressed decoration. Three of these beakers have intersecting panels of combed lines which recall the pattern typical of the Pan-graves of Egypt, which has recently been found as far up the Nile Valley as Khartoum. The shape of these pots, and the stone bowls or platters, also suggests the

possibility of a link with the Nile Valley. The pots and stone platters were associated with a microlithic industry derived from the Upper Kenya Aurignacian (now called Upper Kenya Capsian).

An iron age settlement with nine associated burial pits and a group of thirteen pit dwellings were also examined and in part excavated.

The excavations are fully described, and illustrated by line drawings made by the excavator herself and of the excellence for which she is well-known. They include drawings of pot sherds which are really beautiful; although one could wish that they had been supplemented by some life-size photographs as well. But in these austere days it is unreasonable to lament their absence or to regret that some of the beautifully drawn plans have been excessively reduced in size.

The excavation report is supplemented by reports on the beads, unfortunately inconclusive, and a full description of the rather fragmentary skulls and skeletal material by Dr L. S. B. Leakey.

Readers of this Report will realize how full of interesting problems is the 'neolithic' of Kenya; and, after three fascinating visits there, the reviewer can assure them that the field awaiting workers there is vast. Mrs Leakey would assuredly welcome fellow-workers in this sphere. And we in the Anglo-Egyptian Sudan want to see scientific excavation begin on some of the many sites of this period that stretch southward along the White Nile as far as it has been examined until no doubt they link up somewhere with the 'neolithic' sites of Kenya. The early red ware sherds from these sites are all of the same genre—many patterns that imitate basketwork are common to the two countries, and it is often impossible judging from appearance only, to say whether a sherd comes from Kenya or the Sudan. No doubt links with Ancient Egypt through the intervening territories will one day enable Kenya to date its 'neolithic' cultures much more exactly than at present. Would not one of our younger archaeologists like to undertake this really important work?*

A. J. ARKELL.

INDIANS BEFORE COLUMBUS: twenty thousand years of North American history revealed by archaeology. By P. S. MARTIN, GEORGE L. QUIMBY and DONALD CARTER. *Univ. of Chicago Press*, 1947. XXIII, 582 pages, 122 illus. [*Cambridge Univ. Press*. 33s.]

Apart from a few specialists, very few Europeans take any interest at all in the pre-Columbian history of North America. It is difficult to be interested in a subject one knows only from books; only first hand experience and contact, i.e. field-work, can give life to dry bones. Except therefore as an occasional quarry for cultural parallels, European archaeologists rarely use the vast mass of raw material that Americans have accumulated. To some extent this neglect may have been due to the lack of just such a book as this; for without it the student is, or was, in danger of losing his way. There is now no excuse, for this book is, as it were, a Baedeker guide to the intricacies of the

* This review (dated 27 December 1947) reached me on 14 January 1948, long after my article ('People without a history') had been written, and after I had corrected the proofs. It is a remarkable coincidence that the Commissioner for Archaeology in the Sudan should refer to the same subject here. Some years ago he did mention the Shilluk mounds to me in conversation, saying he had picked up early-looking potsherds on them; but since then neither of us has mentioned them. Although we seem to be in complete agreement, it should be made clear that there has been no collusion, nor must any responsibility be attached to Mr Arkell for anything I have said. On the other hand I regard Mr Arkell's remarks above as strongly reinforcing my own less authoritative suggestions. O.G.S.C.

native cultures. As befits a book of reference it is systematically arranged, facilitating consultation. Though well written, it is naturally not a book that can be read right through, nor is it so intended. But how welcome would it have been in the days when one wanted to know something about everything, and could find out nothing about so much ! In those far off days, however, this book could not have been written, for the historical (i.e. chronological) treatment was not possible before dendrochronology provided the framework ; and it is because the treatment is historical as well as descriptive that it is so valuable. An excellent feature is the inclusion of conjectures but their relegation to a clearly labelled section, so that we can distinguish them from ascertained facts.

Books of reference are difficult to summarize, and of this one adequate summaries have already appeared in *Nature* and the *Geographical Journal* ; readers who wish to know more are referred to these, or to the book itself, which we heartily commend to them.

O.G.S.C.

WOOTTON : the history of an Oxfordshire parish. By COLONEL CHARLES PONSONBY, T.D., D.L., M.P. *Geoffrey Cumberledge*, O.U.P., 1947. 21s.

The writing of a parish history is always a labour of love disarming criticism. Every such history represents an addition to knowledge ; and the sum total of such that exist represents a very substantial gain. We do not find them in other countries, at any rate in such numbers as in Britain ; for they are a reflexion of a certain structure of society, being mostly the work of the squire, the parson and the country doctor. They derive from two sources—an open air life (becoming what we now call 'field-work') and long winter evenings—both combined with the necessary education of mind and leisure to employ it. Parish histories, together with that love of place which inspires them, are characteristic of northern climes, and tend to thin out and disappear as we go southwards to sunnier regions, where the people who might write them live in the country only during the summer months.

This book is excellent in all that concerns the later history of Wootton, not least because it gives much information about the latest phases of all, for which the author is a first-hand authority. If only for this reason it will be valued by posterity, for it is just these obvious things that, for that very reason, are often left unrecorded. (Appendix 10 is an example). But for the earlier periods the author is sadly ill-equipped, and these parts of the book confirm some remarks in recent Editorial Notes about the deficiencies of British education. On the very first page he attributes the Roman Conquest of Britain (by implication) to Julius Caesar, and a few pages further on he puts one of the Jurassic reptiles (*Ceteosaurus*) in the 'Palaeolithic Age'. The claim that 'until 2000 B.C. it may be assumed that the country was mainly forest and swamp' ignores all the work of recent years, including Sir Cyril Fox's classic 'Personality of Britain'. In fact the author's general knowledge is at least a century out of date. He speaks scornfully of the idea of shooting deer with arrows tipped with flint ; but another country squire has proved, by experiment, that a flint arrowhead has a *greater* power of penetration than an iron one.

Nevertheless we welcome, with these reservations, the publication of the book, not least because of its charming illustrations. In form, if not wholly in content, it is a typical Oxford book.

O.G.S.C.